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=> fil hcap
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FILE COVERS 1907 - 20 Nov 2007  VOL 147 ISS 22
FILE LAST UPDATED: 19 Nov 2007  (20071119/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d que 143
L4            16 SEA FILE=REGISTRY ABB=ON  PLU=ON  (104-76-7/BI OR 108-95-2/BI
                 OR 115-86-6/BI OR 1241-94-7/BI OR 16368-97-1/BI OR 2524-64-3/BI
                  OR 25339-17-7/BI OR 29761-21-5/BI OR 51363-64-5/BI OR
                 55053-61-7/BI OR 72512-96-0/BI OR 7647-01-0/BI OR 770-12-7/BI
                 OR 7786-30-3/BI OR 838-85-7/BI OR 850415-34-8/BI)
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L11           69 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 AND L10
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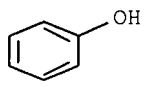
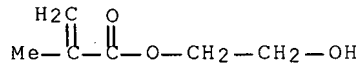
L43 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:599284 HCAPLUS Full-text
DOCUMENT NUMBER: 135:304577
TITLE: Flame-retarding materials. II. Synthesis and flame-retarding properties of phosphorus-on-pendent and phosphorus-on-skeleton polyols and the corresponding polyurethanes
AUTHOR(S): Wang, Tzong-Liu; Cho, Yu-Liang; Kuo, Ping-Lin
CORPORATE SOURCE: Department of Chemical Engineering, National Kaohsiung Institute of Technology, Kaohsiung, 80782, Taiwan
SOURCE: Journal of Applied Polymer Science (2001), 82(2), 343-357
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A phosphorus-on-skeleton compound was synthesized by reacting Ph dichloro phosphate with 2-hydroxyethyl methacrylate (HEMA). This monomer was then copolymd. with other acrylic monomers to form a hydroxy-containing copolymer, which was then used as the polyol in the synthesis of a polyurethane. Phosphorus-on-pendent copolymers and phosphorus-free copolymers and their corresponding polyurethanes were also prepared for comparison with the phosphorus-on-skeleton material in terms of their flame-retardant properties. The flame retardancy and degradation mechanism of these copolymers and polyurethanes were analyzed with thermogravimetric anal. (TGA) and IR spectroscopy. Although those phosphorus-on-skeleton copolymer polyol have less flame-retarding ability than that of the phosphorus-on-pendent copolymer polyol because of less phosphorus content, it was evident that the phosphorus-on-skeleton polyurethanes were more effective flame retardants than the phosphorus-on-pendent polyurethanes. This was attributed to the fact that the crosslinking arising from the phosphorus-on-skeleton copolymer polyols has a tremendous effect on the flame-retarding ability of the corresponding polyurethanes.

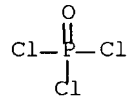
CC 37-6 (Plastics Manufacture and Processing)
IT 108-95-2, Phenol, reactions 868-77-9, 2-Hydroxyethyl methacrylate 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer synthesis; synthesis and flame-retarding properties of phosphorus-on-pendent and phosphorus-on-skeleton polyols and the corresponding polyurethanes)
IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P, Diphenyl chlorophosphate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer synthesis; synthesis and flame-retarding properties of phosphorus-on-pendent and phosphorus-on-skeleton polyols and the corresponding polyurethanes)
IT 108-95-2, Phenol, reactions 868-77-9, 2-Hydroxyethyl methacrylate 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer synthesis; synthesis and flame-retarding properties of phosphorus-on-pendent and phosphorus-on-skeleton polyols and the corresponding polyurethanes)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



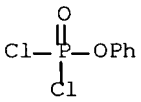
RN 868-77-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester (CA INDEX NAME)



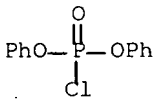
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P, Diphenyl chlorophosphate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer synthesis; synthesis and flame-retarding properties of phosphorus-on-pendent and phosphorus-on-skeleton polyols and the corresponding polyurethanes)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



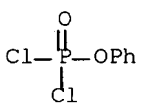
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:534581 HCAPLUS Full-text
DOCUMENT NUMBER: 87:134581
ORIGINAL REFERENCE NO.: 87:21372h,21373a
TITLE: Mixed phosphate ester compositions
INVENTOR(S): Hardy, Donald, Sr.; Orwoll, Edward Francis
PATENT ASSIGNEE(S): FMC Corp., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

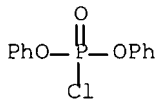
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4034023	A	19770705	US 1975-574588	19750505
PRIORITY APPLN. INFO.:			US 1975-574588	A 19750505

AB Mixed esters of Bu3PO4 12.0-13.7, Bu2PhPO4 69.2-73.7, and BuPh2PO4 14.3-18.4 weight% were prepared by reacting 1.0 mol POCl3 with 0.8-1.0 mol molten PhOH, then reacting the reaction mixture, which contained PhOPCl2O and (PhO)2PClO, with BuOH. The mixed esters are useful as hydraulic fluids, especially for use in aircraft.

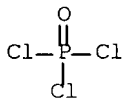
IC C07F009-11
INCL 260973000
CC 25-10 (Noncondensed Aromatic Compounds)
Section cross-reference(s): 23, 51
IT 770-12-7P 2524-64-3P
RL: RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with butanol)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol and butanol)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride)
IT 71-36-3, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride, phenyl phosphorodichloridate and diphenyl phosphorochloridate)
IT 770-12-7P 2524-64-3P
RL: RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with butanol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



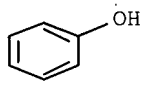
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



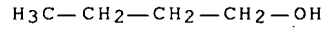
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol and butanol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 71-36-3, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride, phenyl phosphorodichloridate and diphenyl phosphorochloridate)
RN 71-36-3 HCAPLUS
CN 1-Butanol (CA INDEX NAME)



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                 OR 25339-17-7/BI OR 29761-21-5/BI OR 51363-64-5/BI OR
                55053-61-7/BI OR 72512-96-0/BI OR 7647-01-0/BI OR 770-12-7/BI
                OR 7786-30-3/BI OR 838-85-7/BI OR 850415-34-8/BI)
L5            2 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND P/ELS AND CL/ELS
L7            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND NR>1
L8            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 NOT L7
L9         1121 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7(L)RACT+NT/RL
L10         491 SEA FILE=CAPLUS ABB=ON  PLU=ON  L8(L)RACT+NT/RL
L11          69 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 AND L10
L16           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L11 AND LEWIS?
L17      226154 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ALCOHOLS+PFT,NT1/CT(L)RACT+NT/
                RL
L18          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND L11
L20          26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L16 OR L18
L21          11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND ?ALCOHOL?
L22          28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 OR L21
L24          12 SEA FILE=REGISTRY ABB=ON  PLU=ON  CL3OP/MF
L25         210 SEA FILE=REGISTRY ABB=ON  PLU=ON  C6H6O/MF
L26          73 SEA FILE=REGISTRY ABB=ON  PLU=ON  L25 AND C6/ES
L27        4179 SEA FILE=CAPLUS ABB=ON  PLU=ON  L24(L)RACT+NT/RL
L28       21759 SEA FILE=CAPLUS ABB=ON  PLU=ON  L26(L)RACT+NT/RL
L29         253 SEA FILE=CAPLUS ABB=ON  PLU=ON  L27 AND L28
L30           4 SEA FILE=REGISTRY ABB=ON  PLU=ON  C6H5CL2O2P/MF
L31           2 SEA FILE=REGISTRY ABB=ON  PLU=ON  L30 AND C6/ES
L37           3 SEA FILE=REGISTRY ABB=ON  PLU=ON  C12H10CLO3P/MF
L38           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L37 AND 2 C6/ES
L39         111 SEA FILE=CAPLUS ABB=ON  PLU=ON  L31(L)PREP+NT/RL
L40         122 SEA FILE=CAPLUS ABB=ON  PLU=ON  L38(L)PREP+NT/RL
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                OR AY<2004)


=> d l46 ibib abs hitind hitstr tot

L46  ANSWER 1 OF 59  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2005:361851  HCAPLUS  Full-text
DOCUMENT NUMBER:          142:411485
TITLE:                    Process for preparation of alkyl phenyl phosphates
                          from phenyl chlorophosphates and aliphatic
                          alcohols in presence of Lewis acids
                          for use as plasticizers and flame retardants
INVENTOR(S):              De Kleine, Lambertus A.; Seifert, Juergen Klaus;
                          Fedgenhaeuer, Horst
PATENT ASSIGNEE(S):       Akzo Nobel N. V., Neth.
SOURCE:                   Eur. Pat. Appl., 17 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
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     EP 1526137            A1    20050427    EP 2003-78364            20031024 <--
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WO 2005040177 A1 20050506 WO 2004-EP52615 20041021 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1685141 A1 20060802 EP 2004-817276 20041021 <--

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CN 1902212 A 20070124 CN 2004-80038881 20041021 <--

IN 2006CN01817 A 20070608 IN 2006-CN1817 20060524 <--

PRIORITY APPLN. INFO.: EP 2003-78364 A 20031024 <--

WO 2004-EP52615 W 20041021

OTHER SOURCE(S): CASREACT 142:411485

AB Dialkyl monophenyl phosphate, monoalkyl di-Ph phosphate or their mixts. are prepared by reaction of monophenyl dichlorophosphate and/or di-Ph monochlorophosphate with an aliphatic alc. in the presence of a Lewis acid catalyst and in the absence of solvent at 40-200° and at a pressure of 0-1 bar. The mixts. of monoalkyl di-Ph phosphates and dialkyl monophenyl phosphates obtainable from the above process and the use of such mixts. as plasticizers and/or flame retardants (no data) are also claimed. In an example, treating 228.6 kg of a mixture containing 6.4 weight % PhOP(O)Cl2, 89.7 weight % (PhO)2P(O)Cl, 3.9 weight % (PhO)3P(O) and about 0.1 weight % MgCl2 with 118.1 kg 2-ethylhexanol over 3 h at 120° and 50 mm Hg followed by stirring an addnl. 4 h gave a mixture containing 86.4 weight % 2-ethylhexyl di-Ph phosphate, 7.1 weight % bis(2-ethylhexyl) Ph phosphate, 3.2 weight % (PhO)3P(O), 2.3 weight % (PhO)2P(O)OH and 1.3 weight % 2-ethylhexyl chloride.

IC ICM C07F009-09

ICS C07F009-11; C07F009-12

CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 37, 45

IT Alcohols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(aliphatic; process for preparation of alkyl Ph phosphates from Ph chlorophosphates and aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)

IT Fireproofing agents

Plasticizers

(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)

IT Lewis acids

RL: CAT (Catalyst use); USES (Uses)

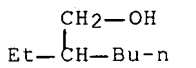
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)

IT Phosphates, preparation

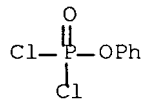
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(process for preparation of alkyl Ph phosphates from Ph chlorophosphates

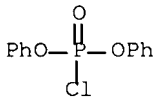
and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 838-85-7P, Diphenyl phosphate 55053-61-7P, Isodecyl chloride
RL: BYP (Byproduct); PREP (Preparation)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 7786-30-3, Magnesium chloride, uses
RL: CAT (Catalyst use); USES (Uses)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 1241-94-7P, 2-Ethylhexyl diphenyl phosphate 16368-97-1P, Bis(2-ethylhexyl) phenyl phosphate 29761-21-5P, Isodecyl diphenyl phosphate 51363-64-5P, Diisodecyl phenyl phosphate 72512-96-0P, Isododecyl diphenyl phosphate 850415-34-8P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 115-86-6, Triphenyl phosphate
RL: NUU (Other use, unclassified); USES (Uses)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 104-76-7, 2-Ethylhexanol 108-95-2, Phenol, reactions
770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate 25339-17-7, Isodecyl alcohol
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 7647-01-0, Hydrogen chloride, processes
RL: REM (Removal or disposal); PROC (Process)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
IT 104-76-7, 2-Ethylhexanol 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of alkyl Ph phosphates from Ph chlorophosphates and
aliphatic alcs. in presence of Lewis acids as plasticizers and flame retardants)
RN 104-76-7 HCAPLUS
CN 1-Hexanol, 2-ethyl- (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 2 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:121018 HCAPLUS Full-text
DOCUMENT NUMBER: 142:199090
TITLE: Reactive flame retardant and flame-retardant processed resin with good flame retardancy
INVENTOR(S): Shigehara, Kiyotaka; Kanno, Toshiyuki; Onitsuka, Asuka; Yanase, Hironori
PATENT ASSIGNEE(S): Fuji Electric Holdings Co., Ltd., Japan
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005012415	A1	20050210	WO 2004-JP3160	20040311 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005087852	A1	20050922	WO 2004-JP3207	20040311 <--

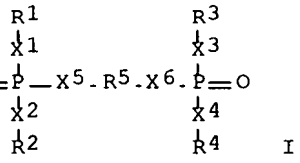
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1659148 A1 20060524 EP 2004-719605 20040311 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK

PRIORITY APPLN. INFO.: JP 2003-285152 A 20030801 <--
JP 2003-285156 A 20030801 <--
JP 2003-285167 A 20030801 <--
JP 2003-285173 A 20030801 <--
WO 2004-JP3160 W 20040311

OTHER SOURCE(S): MARPAT 142:199090

GI



I

AB The present invention relates to a reactive flame retardant which imparts excellent flame retardancy to resins even when added in a small amount and can be prevented from bleeding out and a flame-retardant processed resin obtained with the flame retardant. The reactive flame retardant is an organophosphorus compound I and has ≥1 unsatd. group at ends of R1 to R4 and X1 to X6, wherein R1, R2, R3, R4 = CH2:CY1 or (hetero atom-containing) monofunctional aromatic hydrocarbon; R5 = (hetero atom-containing) difunctional aromatic hydrocarbon; X1, X2, X3, X4 = O, NH, or (CH2:CY1Y2)N; X5, X6 = NH or (CH2:CY1Y2)N; Y1 = H or methyl; Y2 = C1-5 alkylene or COOY3; Y3 = C2-5 alkylene; ≥1 of X1, X2, X3, and X4 contains NH or (CH2:CY1Y2)N; and ≥1 of R1, R2, R3, R4, X1, X2, X3, X4, X5, and X6 contains CH2:CY1Y2. The flame-retardant processed resin is obtained by solidifying a resin composition containing this organophosphorus compound and then reacting the compound by heating or irradiation with a radiation. Thus, 61.3 g phosphorus oxychloride and 18.4 g benzidine were reacted, 34.2 g allylamine was added therein and reacted to give a reactive flame retardant, 10 parts of which was mixed with 2002B nylon 66 61.8, 03.JAFT2Ak25 silane-treated glass fiber 22, carbon black 1, Irganox 1010 0.2, and calcium carbonate 5 parts were kneaded at 280°, injection-molded at 280°, and irradiated with a γ-ray to give a test piece with flame retardancy (UL 94) V-0, no flame retardant bleed-out, and good dimensional stability.

IC ICM C08K005-52
ICS C08K005-5399; C09K021-12

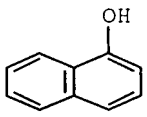
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 42, 76

IT 80-05-7, 2,2'-Bis(4-hydroxyphenyl)propane, reactions 80-08-0, Bis(p-aminophenyl)sulfone 80-09-1, Bis(4-hydroxyphenyl)sulfone

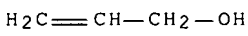
90-15-3, α-Naphthol 91-59-8, β-Naphthylamine
92-87-5, Benzidine 92-88-6, 4,4'-Biphenol 101-77-9,
Bis(4-aminophenyl)methane 101-80-4, 4,4'-Diaminodiphenyl ether
107-11-9, Allylamine 107-18-6, Allyl alcohol,
reactions 123-30-8, p-Hydroxyaniline 124-02-7, Diallylamine
581-43-1, 2,6-Naphthalenediol 611-98-3, 4,4'-Diaminobenzophenone
611-99-4, 4,4'-Dihydroxybenzophenone 620-92-8 770-12-7,
Phenoxyphosphoryl dichloride 1745-81-9, o-Allylphenol 1965-09-9,
Bis(4-hydroxyphenyl)ether 2243-67-6, 2,6-Diaminonaphthalene 2479-47-2,
2,2-Bis(4-aminophenyl)propane 2524-64-3 6411-34-3,
p-Allyloxyphenol 10025-87-3, Phosphorus oxychloride 16383-57-6
22950-23-8, 1-Naphthylamine, N-allyl 48121-05-7 65653-79-4
96203-99-5 400745-21-3 782503-95-1 835919-26-1 835919-27-2
835919-28-3 835919-29-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of reactive flame retardants for flame-retardant resin compns.)

IT 90-15-3, α-Naphthol 107-18-6, Allyl
alcohol, reactions 770-12-7, Phenoxyphosphoryl
dichloride 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of reactive flame retardants for flame-retardant resin compns.)

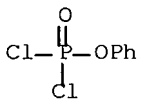
RN 90-15-3 HCAPLUS
CN 1-Naphthalenol (CA INDEX NAME)



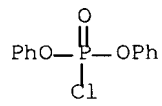
RN 107-18-6 HCAPLUS
CN 2-Propen-1-ol (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 3 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1018801 HCAPLUS Full-text
DOCUMENT NUMBER: 142:7923
TITLE: Production of fire-resistant durable polyester fiber containing phosphoric amide and cyclic phosphonate
INVENTOR(S): Shinozaki, Atsushi; Takeda, Masanobu; Seki, Masao; Masuda, Takeshi; Iwaki, Terufumi; Sasa, Katsuo
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan; Shikoku Chemicals Corp.; Daikyo Chemical Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

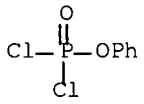
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004332187	A	20041125	JP 2004-115462	20040409 <--
PRIORITY APPLN. INFO.:			JP 2003-113809 A	20030418 <--

OTHER SOURCE(S): MARPAT 142:7923

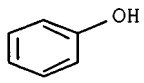
AB Title fire-resistant polyester fiber consists of: (A) at least one of phosphoric amides selected from 1,4-piperazinediylbis(diarylphosphonate), diarylaminophosphonate, aryldiaminophosphinate, and triaminophosphine oxide; and (B) cyclic phosphonate. Thus, a polyester fabric was impregnated in a composition containing 0.3% owf of Sumikaron Blue E-RPD (disperse dye), 17% owf of an aqueous solution containing anilinodiphenylphosphate, sodium dioctyl sulfosuccinate, silicone oil, and 7% owf of a aqueous solution containing a mixture of (5-ethyl-2-methyl-1,3,2-dioxaphosphorinan-5-yl)methyldimethylphosphonate-P-oxide and bis(5-ethyl-2-methyl-1,3,2-dioxaphosphorinan-5-yl)methylmethylphosphonate-P-oxide.

IC ICM D06M013-453
ICS C09K021-12; D06M013-288; D06M101-32
CC 40-9 (Textiles and Fibers)
IT 770-12-7P, Phenylphosphoric dichloride
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; production of fire-resistant durable polyester fiber containing phosphoric amide and cyclic phosphonate)
IT 62-53-3, Aniline, reactions 108-95-2, Phenol, reactions 2524-64-3 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting materials; production of fire-resistant durable polyester fiber containing phosphoric amide and cyclic phosphonate)
IT 770-12-7P, Phenylphosphoric dichloride
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

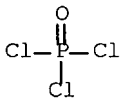
(intermediate; production of fire-resistant durable polyester fiber containing
phosphoric amide and cyclic phosphonate)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting materials; production of fire-resistant durable polyester fiber containing phosphoric amide and cyclic phosphonate)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 4 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:913171 HCAPLUS Full-text
DOCUMENT NUMBER: 139:381611
TITLE: Preparation of neopentyl glycol bis(diarylphosphate) esters by continuous addition of neopentyl glycol to diaryl chlorophosphate at elevated temperature under vacuum
INVENTOR(S): Bright, Danielle Angrand; Pirrelli, Ronald L.; Desikan, Ananthan Narayanan
PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
SOURCE: PCT Int. Appl., 11 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003095463	A1	20031120	WO 2003-US14146	20030506 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003228883	A1	20031111	AU 2003-228883	20030506 <--
GB 2405148	A	20050223	GB 2004-26067	20030506 <--
GB 2405148	B	20060823		
US 2006183932	A1	20060817	US 2004-513745	20041105 <--
US 7166736	B2	20070123		
PRIORITY APPLN. INFO.:			US 2002-378483P	P 20020507 <--
			WO 2003-US14146	W 20030506 <--

OTHER SOURCE(S): CASREACT 139:381611

AB Neopentyl glycol bis(di-Ph phosphate) liquid compns. are described that comprise from about 75% to about 90%, by weight, of neopentyl glycol bis(di-Ph phosphate), less than about 5% by weight of cyclic product, less than about 8% by weight of tri-Ph phosphate, and with a P3 content of no less than about 1%, by weight These compns. are made by continuously adding neopentyl glycol to a diaryl chlorophosphate mixture at elevated temperature, under vacuum, and in the presence of a catalyst. Thus, MgCl2 catalyzed reaction of di-Ph chlorophosphate, Ph dichlorophosphate, and tri-Ph phosphate with continuous addition of neopentyl glycol under vacuum at 120° gave 87% by weight neopentyl glycol bis(di-Ph phosphate) in 7 h.

IC ICM C07F009-09
ICS C07F009-12

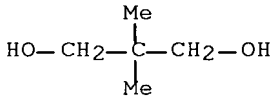
CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 115-86-6, Triphenyl phosphate 126-30-7, Neopentyl glycol 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(magnesium chloride catalyzed preparation of neopentyl glycol bis(diarylphosphate) esters by continuous addition of neopentyl glycol to diaryl chlorophosphate at elevated temperature under vacuum)

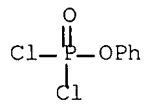
IT 126-30-7, Neopentyl glycol 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(magnesium chloride catalyzed preparation of neopentyl glycol bis(diarylphosphate) esters by continuous addition of neopentyl glycol to diaryl chlorophosphate at elevated temperature under vacuum)

RN 126-30-7 HCAPLUS

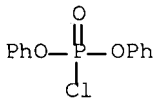
CN 1,3-Propanediol, 2,2-dimethyl- (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

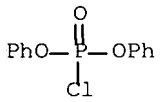
L46 ANSWER 5 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:369028 HCAPLUS Full-text
DOCUMENT NUMBER: 138:369730
TITLE: Aromatic phosphate-based fireproofing agents for fire-resistant polymer compositions
INVENTOR(S): Kimura, Ryoji; Murase, Hisashi; Kamimoto, Tetsuo; Hayashi, Kazuhiko; Ishikawa, Shinichi
PATENT ASSIGNEE(S): Asahi Denka Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003138143	A	20030514	JP 2001-341459	20011107 <--
CN 1504500	A	20040616	CN 2002-154705	20021129 <--

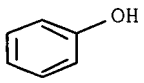
PRIORITY APPLN. INFO.: JP 2001-341459 A 20011107 <--
OTHER SOURCE(S): MARPAT 138:369730

AB The fireproofing agent having color number (Gardner color test) ≤3 after heating at 300° for 20 min, comprises an aromatic phosphate obtained by esterification reacting a phosphorus oxyhalide, bisphenol A and phenol. Thus, 14 parts phosphate mixture of (PhO)2P(:O)[O-p-C6H4C(CH3)2- p-C6H4OP(:O)(OPh)]nOPh 98.50% (n = 1, 96.0%; n = 2, 2.11%; and n = 3, 0.39%), tri-Ph phosphate 0.90%, and isopropenyldiphenyl phosphate 0.24% prepared from bisphenol A, phosphorus oxychloride and phenol 4.0 and 0.15 and bisphenol was blended with Iupilon E 2000F (polycarbonate) 80, Stylac 100 (ABS resin) 20, and Teflon 6J (PTFE) 0.1 parts, and injection molded to give a specimen showing UL 94 fire resistance rating V-0 and yellowing index 0.93.

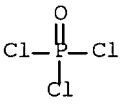
IC ICM C08L101-00
ICS C08K005-523
CC 37-6 (Plastics Manufacture and Processing)
IT 2524-64-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(aromatic phosphate-based fireproofing agents for fire-resistant polymer compns.)
IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic phosphate-based fireproofing agents for fire-resistant polymer compns.)
IT 2524-64-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(aromatic phosphate-based fireproofing agents for fire-resistant polymer compns.)
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic phosphate-based fireproofing agents for fire-resistant polymer compns.)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



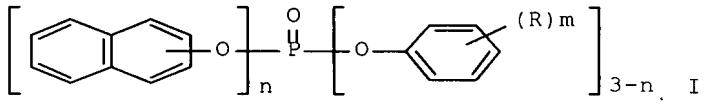
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 6 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:868997 HCAPLUS Full-text
DOCUMENT NUMBER: 137:353880
TITLE: Naphthyl phosphate compounds for flame-retardant resin composition with good molding flowability and low mold contamination
INVENTOR(S): Tamura, Kazunari; Otsuki, Shoichi; Tsuji, Yuji; Okawa, Takashi
PATENT ASSIGNEE(S): Daihachi Chemical Industry Co., Ltd., Japan
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002090439	A1	20021114	WO 2002-JP4188	20020425 <--
W: CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2003020399	A	20030124	JP 2001-278491	20010913 <--
PRIORITY APPLN. INFO.:			JP 2001-135247 A	20010502 <--
			JP 2001-319491 A	20011017 <--

OTHER SOURCE(S): MARPAT 137:353880
GI



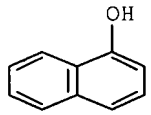
AB Title flame-retardant resin composition comprises (A) thermoplastic or thermosetting resins containing no phenylene ether units and (B) flame-retardant naphthyl phosphate compds. represented by the general formula of I (n: 1 or 2; R: C1-4 alkyl; and m: integer of 0-3). Thus, 14 parts of 2-naphthyldiphenyl phosphate prepared were added to Novalloy S-1500 (polycarbonate/ABS alloy) 100 parts to give a resin composition showing Izod impact strength 66 kgf·cm/cm, thermal weight loss 1.3 wt%, and water resistance (MFR) 14.9 and 94.9 g/10 min for before and after adding water, resp.

IC ICM C08L101-00
ICS C08K005-523

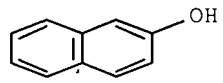
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

IT 90-15-3, 1-Naphthol 95-50-1, o-Dichlorobenzene 106-44-5, 4-Methylphenol, reactions 108-39-4, 3-Methylphenol, reactions 108-95-2, Phenol, reactions 135-19-3, 2-Naphthol, reactions 576-26-1, 2,6-Dimethylphenol 770-12-7 2524-64-3, Diphenylphosphochloridate 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of naphthyl phosphate compound for flame-retardant resin composition
with good molding flowability and low mold contamination)

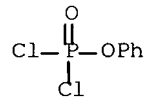
IT 90-15-3, 1-Naphthol 135-19-3, 2-Naphthol, reactions
770-12-7 2524-64-3, Diphenylphosphochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of naphthyl phosphate compound for flame-retardant resin composition
with good molding flowability and low mold contamination)
RN 90-15-3 HCAPLUS
CN 1-Naphthalenol (CA INDEX NAME)



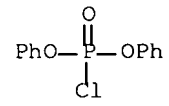
RN 135-19-3 HCAPLUS
CN 2-Naphthalenol (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



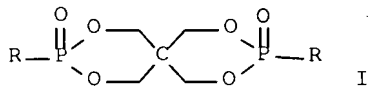
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 7 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:514300 HCAPLUS Full-text
DOCUMENT NUMBER: 137:79683

TITLE: Preparation of disubstituted pentaerythritol diphosphates
INVENTOR(S): Monri, Akinori; Tanabe, Seiichi; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002193986	A	20020710	JP 2000-397158	20001227 <--
PRIORITY APPLN. INFO.:			JP 2000-397158	20001227 <--

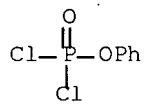
OTHER SOURCE(S): MARPAT 137:79683
GI



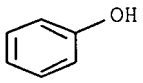
I

AB The diphosphate I [R = (un)substituted C6-15 aryl], useful as fireproofing agents for polymers, are prepared by (1) treating ROH (R = same as above) with an excess amount of POCl2, preferably in the presence of MgCl2, (2) removing POCl2 from the reaction mixture containing ROPOCl2 (II; R = same as above) until amount of POCl3 becomes ≤5 mol% to II, and (3) reacting remaining liquid with pentaerythritol. A 100:5 blend of HIPS and I (R = Ph) (preparation given) was pelletized and injection-molded to give a test piece with UL-94 fire resistance rating V-2.

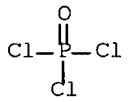
IC ICM C07F009-6574
ICS C07B061-00
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 29
IT 770-12-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of diaryl pentaerythritol diphosphates as fireproofing agents from phenols, POCl3, and pentaerythritol)
IT 108-95-2, Phenol, reactions 115-77-5, Pentaerythritol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of diaryl pentaerythritol diphosphates as fireproofing agents from phenols, POCl3, and pentaerythritol)
IT 770-12-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of diaryl pentaerythritol diphosphates as fireproofing agents from phenols, POCl3, and pentaerythritol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of diaryl pentaerythritol diphosphates as fireproofing agents from phenols, POCl3, and pentaerythritol)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 8 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:147752 HCAPLUS Full-text
DOCUMENT NUMBER: 136:201043
TITLE: Thermoplastic resin compositions containing phosphites and/or phosphonites with excellent thermal stability and recyclability
INVENTOR(S): Niide, Yoshikazu
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002060610	A	20020226	JP 2000-249436	20000821 <--
PRIORITY APPLN. INFO.:			JP 2000-249436	20000821 <--

OTHER SOURCE(S): MARPAT 136:201043
AB The compns. contain polymers containing 30-100% polycarbonates 100, phosphites and/or phosphonites 0.0005-1, and compds. selected from metal salts of

carbonic acid, sulfuric acid, chromic acid, and titanic acid, SiO2, silicate salts, and metal oxides with pH 6-8.5 (as aqueous solns. or dispersions) 0.005-1 parts. Thus, a test piece manufactured from a 100:0.007:0.3 mixture of bisphenol A polycarbonate, Irgafos 168 [tris(2,4-di-tert-butyl) phosphite], and CR 60 (TiO2, purity ≥95%, average particle size .apprx.0.2 μm) viscosity-average mol. weight decrease 200 and 400 after heating at 120° and 100% relative humidity for 24 and 48 h, resp.

IC ICM C08L069-00
ICS C08K003-02; C08K003-18; C08K003-26; C08K003-30; C08K003-34; C08K003-36; C08K005-521; C08K005-524; C08K005-5317; C08L021-00; C08L083-04; C08L085-02; C08L101-00

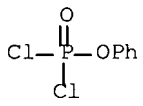
CC 37-6 (Plastics Manufacture and Processing)

IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(for fireproofing agent preparation; polycarbonate compns. containing phosphites and/or phosphonites with good thermal stability and recyclability)

IT 108-95-2, Phenol, reactions 2467-02-9, Bisphenol F 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(for fireproofing agent preparation; polycarbonate compns. containing phosphites and/or phosphonites with good thermal stability and recyclability)

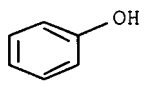
IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(for fireproofing agent preparation; polycarbonate compns. containing phosphites and/or phosphonites with good thermal stability and recyclability)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

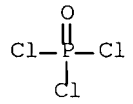


IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(for fireproofing agent preparation; polycarbonate compns. containing phosphites and/or phosphonites with good thermal stability and recyclability)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 9 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:798233 HCAPLUS Full-text
DOCUMENT NUMBER: 135:344286
TITLE: Preparation of phosphoric acid triesters as flame retardants, plasticizers, or stabilizers
INVENTOR(S): Onchi, Yoko; Takahashi, Ikuo
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001081356	A1	20011101	WO 2001-JP3423	20010420 <--
W: CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1277758	A1	20030122	EP 2001-921971	20010420 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
CN 1597686	A	20050323	CN 2004-10068789	20010420 <--
TW 523520	B	20030311	TW 2001-90109890	20010425 <--
US 2003109736	A1	20030612	US 2001-18971	20011226 <--
US 6794528	B2	20040921		

PRIORITY APPLN. INFO.:			
JP 2000-125777	A	20000426	<--
JP 2000-125778	A	20000426	<--
JP 2000-125779	A	20000426	<--
JP 2000-247140	A	20000817	<--
JP 2000-339664	A	20001107	<--
CN 2001-801574	A3	20010420	<--
WO 2001-JP3423	W	20010420	<--

OTHER SOURCE(S): CASREACT 135:344286; MARPAT 135:344286
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Phosphorus compds. represented by the following formula (I), (II), or (III) [wherein Z1, Z2, and Z3 each represents a cycloalkane ring, cycloalkene ring, polycyclic aliphatic hydrocarbon ring, or aromatic hydrocarbon ring; R represents halogeno, hydroxyl, carboxyl, halocarbonyl, alkyl, alkoxy, alkenyl, or aryl; A represents a polyvalent group corresponding to an alkane; Y1, Y2,

and Y3 each represents O, S, or NR1 (R1 is hydrogen or alkyl); p is an integer of 1 to 6; m is an integer of 0 to 2; n is an integer of 1 or larger; q is an integer of 0 to 5; p1 is 0 or 1; and n1 is an integer of 1 to 4] are prepared These phosphorus compds. have excellent heat resistance and are useful as additives such as flame retardants, plasticizers, or stabilizers for hot-melt, thermal, or delayed tack adhesives, thermal transfer receptors, color photog. photosensitizers, melt-type inkjet ink, vibration absorbers, pencil cores, lubricants, heat transfer medium, and polymers (no data). Thus, 159.7 g di-Ph phosphorochloridate was added dropwise to a mixture of 40.1 g 1,3-adamantanediol and 235.1 g pyridine over a period of 30 min and the resulting mixture was stirred at 90° for 2.5 h to give, after workup, 71% 1,3-adamantanediol bis(diphenylphosphate).

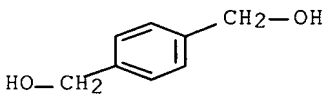
IC ICM C07F009-12
ICS C07F009-6574

CC 25-22 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 24, 28, 37

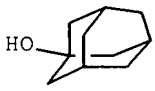
IT 106-86-5 106-87-6, 4-Vinyl-1-cyclohexene diepoxide 278-74-0, 2,3-Epoxynorbornane 589-29-7, p-Xylene glycol 612-14-6, o-Xylene glycol 626-18-6, 1,3-Benzenedimethanol 707-37-9, 3,5-Dimethyl-1-adamantanol 768-95-6, 1-Adamantanol 770-12-7, Phenyl phosphorodichloridate 1679-51-2, 3-Cyclohexene-1-methanol 2094-72-6, Adamantane-1-carbonyl chloride 2524-64-3, Diphenyl phosphorochloridate 3293-90-1, Bicyclo[2.2.1]heptane-2,5-dimethanol 5001-18-3, 1,3-Adamantanediol 5301-78-0 10347-01-0, 5,7-Dimethyl-1,3-adamantanediol 28132-01-6 29713-15-3, 1,3-Adamantanedicarbonyl dichloride 99181-50-7, 1,3,5-Adamantanetriol 211120-05-7 371158-57-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of phosphoric acid triesters as flame retardants, plasticizers, or stabilizers)

IT 589-29-7, p-Xylene glycol 768-95-6, 1-Adamantanol 770-12-7, Phenyl phosphorodichloridate 2524-64-3, Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of phosphoric acid triesters as flame retardants, plasticizers, or stabilizers)

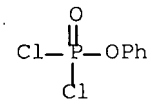
RN 589-29-7 HCAPLUS
CN 1,4-Benzenedimethanol (CA INDEX NAME)



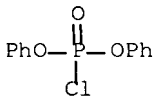
RN 768-95-6 HCAPLUS
CN Tricyclo[3.3.1.13,7]decan-1-ol (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 10 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:594795 HCAPLUS Full-text
DOCUMENT NUMBER: 135:284879
TITLE: Biosynthesis of the Phosphodiester Bond in Coenzyme F420 in the Methanoarchaea
AUTHOR(S): Graupner, Marion; White, Robert H.
CORPORATE SOURCE: Department of Biochemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA, 24061-0308, USA
SOURCE: Biochemistry (2001), 40(36), 10859-10872
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:284879

AB The biochem. route for the formation of the phosphodiester bond in coenzyme F420, one of the methanogenic coenzymes, has been established in the methanoarchaea Methanosarcina thermophila and Methanococcus jannaschii. The first step in the formation of this portion of the F420 structure is the GTP-dependent phosphorylation of L-lactate to 2-phospho-L-lactate and GDP. The 2-phospho-L-lactate represents a new natural product that was chemical identified in Methanobacterium thermoautotrophicum, M. thermophila, and Mc. jannaschii. Incubation of cell exts. of both M. thermophila and Mc. jannaschii with [hydroxy-18O, carboxyl-18O2]lactate and GTP produced 2-phospho-L-lactate with the same 18O distribution as found in both the starting lactate and the lactate recovered from the incubation. These results indicate that the carboxyl oxygens are not involved in the phosphorylation reaction. Incubation of Sephadex G-25 purified cell exts. of M. thermophila or Mc. jannaschii with 7,8-didemethyl-8-hydroxy-5-deazariboflavin (Fo), 2-phospho-L-lactate, and GTP or ATP lead to the formation of F420-0 (F420 with no glutamic acids). This transformation was shown to involve two steps: (i) the GTP- or

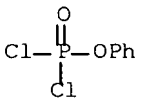
ATP-dependent activation of 2-phospho-L-lactate to either lactyl(2)diphospho-(5')guanosine (LPPG) or lactyl(2)diphospho- (5')adenosine (LPPA) and (ii) the reaction of the resulting LPPG or LPPA with Fo to form F420-0 with release of GMP or AMP. Attempts to identify LPPG or LPPA intermediates by incubation of cell exts. with L-[U-14C]lactate, [U-14C]2-phospho-L-lactate, or [8-3H]GTP were not successful owing to the instability of these compds. toward hydrolysis. Synthetically prepared LPPG and LPPA had half-lives of 10 min at 50° (at pH 7.0) and decomposed into GMP or AMP and 2-phospho-L-lactate via cyclic 2-phospho-L-lactate. No evidence for the functioning of the cyclic 2-phospho-L-lactate in the in vitro biosynthesis could be demonstrated. Incubation of cell exts. of M. thermophila or Mc. jannaschii with either LPPG or LPPA and Fo generated F420-0. In summary, this study demonstrates that the formation of the phosphodiester bond in coenzyme F420 follows a reaction scheme like that found in one of the steps of the DNA ligase reaction and in the biosynthesis of coenzyme B12 and phospholipids.

CC 7-3 (Enzymes)
Section cross-reference(s): 10

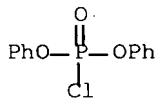
IT 108-18-9, Diisopropylamine 598-72-1, 2-Bromopropionic acid 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate 10326-41-7, l-Lactic acid, reactions 27871-49-4, Methyl (S)-(-)lactate 56777-24-3, Benzyl L-lactate
RL: RCT (Reactant); RACT (Reactant or reagent)
(biosynthesis of phosphodiester bond in coenzyme F420 from methanoarchaea may involve F420-0 as intermediate)

IT 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate 10326-41-7, l-Lactic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(biosynthesis of phosphodiester bond in coenzyme F420 from methanoarchaea may involve F420-0 as intermediate)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

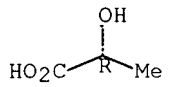


RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



RN 10326-41-7 HCAPLUS
CN Propanoic acid, 2-hydroxy-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

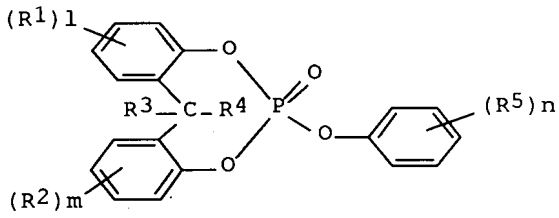


REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 11 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:589802 HCAPLUS Full-text
DOCUMENT NUMBER: 135:167532
TITLE: Fire-retardant and moldable rubber-modified styrene resin compositions
INVENTOR(S): Tando, Kazushi; Yamanaka, Katsuhiro; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001220485	A	20010814	JP 2000-30287	20000208 <--
PRIORITY APPLN. INFO.:			JP 2000-30287	20000208 <--

OTHER SOURCE(S): MARPAT 135:167532
GI



I

AB Title compns. comprise 100 parts thermoplastic resins containing ≥50% rubber-modified styrene resins and 1-70 parts organic P compds.containing ≥50% I (R1, R2, R5 = C1-15 linear aliphatic hydrocarbyl; R3, R4 = H or C1-3 linear aliphatic hydrocarbyl; l, m, n = 0-2). A composition of 100 parts a rubber-modified styrene resin and 15 parts 6-oxo-6-phenoxy-12H- dibenzo(d,g)(1,3,2)-dioxaphosphocin (from POCl3, phenol, and bisphenol F) was extruded and molded into a test piece with heat distortion temperature 62.2° and UL 94 test V-2.

IC ICM C08L051-04
ICS C08K005-527; C08L101-00

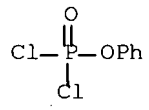
CC 37-6 (Plastics Manufacture and Processing)

IT 770-12-7P, Phenyldichlorophosphate 18350-98-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(aromatic dioxaphosphocin-containing rubber-modified styrene resin compns. with fire resistance and moldability)

IT 108-95-2, Phenol, reactions 576-26-1, 2,6-Dimethylphenol 2467-02-9, 2,2'-Methylenebisphenol 3236-63-3, 2,2'-Methylenebis(4-methylphenol) 10025-87-3, TrichloroPhosphorus oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic dioxaphosphocin-containing rubber-modified styrene resin compns. with fire resistance and moldability)

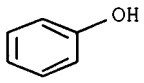
IT 770-12-7P, Phenyldichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(aromatic dioxaphosphocin-containing rubber-modified styrene resin compns. with fire resistance and moldability)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

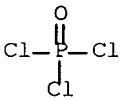


IT 108-95-2, Phenol, reactions 10025-87-3, TrichloroPhosphorus oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic dioxaphosphocin-containing rubber-modified styrene resin compns. with fire resistance and moldability)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 12 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:589774 HCAPLUS Full-text
DOCUMENT NUMBER: 135:167530
TITLE: Phosphorus-containing crosslinking agents and flame-retardant hardened epoxy resins thereof
INVENTOR(S): Wang, Chun Shan; Shieh, Jeng Yueh
PATENT ASSIGNEE(S): National Science Committee, Taiwan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001220427	A	20010814	JP 2000-391241	20001222 <--
JP 3464783	B2	20031110		
TW 490474	B	20020611	TW 2000-89100075	20000104 <--
US 6613848	B1	20030902	US 2000-571682	20000516 <--
US 2004024255	A1	20040205	US 2003-618915	20030714 <--
US 6992151	B2	20060131		

PRIORITY APPLN. INFO.: TW 2000-89100075 A 20000104 <--
US 2000-571682 A3 20000516 <--

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The crosslinking agents have formulas I-IV [m = 1, 2; m1 = 0, 1; p = 0-3; m + p ≤ 4; R = C1-4 alkyl; X = O, S, NH; Q = bond, CH2, CMe2, O, S, SO2; A = H, V, P(O)Ar2; A' = H, VI, CR1R2P(O)Ar2; R1, R2 = H, C1-18 alkyl, (substituted) C6-18 aryl, (substituted) C6-18 arylmethylene; Ar = VII, VIII; n = 0-5; R = same as above; all of A and A' is H; if all of A' is H, ≥1 of A is not H; if all of A is H, ≥1 of A' is not H; Q' = IX, X; n1 = 0-11; Z = NH2, NHR, R; o = 1-3; o1 = 3-10; R, Q, X, p = same as above; if Q is a bond; Q' = X; Y = (CH2)r or p-C6H4; r = 0-6]. Epoxy resins in the molten state are crosslinked by using the crosslinking agents or their blends with other crosslinking agents. The flame-retardant hardened epoxy resins have high Tg, decomposition temperature, and modulus and are especially suitable for printed circuit boards and encapsulation of semiconductor devices. Thus, 1 mol 9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide (DOPO) was reacted with 1 mol HCHO at 110-115° to give 2-[6-oxide-6H-dibenz[c,e][1,2]oxaphospholin-6- yl]methanol with m.p. 152-154° in yield 92, 1.0 mol of which was added in 1 mol a phenol novolak resin melting at 90°, reacted at 140°, cooled, filtered, and dried to give a crosslinking agent with softening point 67-75° and P content 3.64% in yield 98%. A cresol-HCHO novolak epoxy resin as mixed with the crosslinking agent and PPh3, pulverized, cured in a mold at 150° then 170° and post-cured at 200° to give a cured epoxy resin with Td (5% weight decrease) 383°, and UL-94 flame retardance V-0.

IC ICM C08G059-40
ICS C07F009-52; C07F009-53; C07F009-6574

CC 37-6 (Plastics Manufacture and Processing)

IT 884-74-2P 2524-64-3P 32186-92-8P 35948-26-6P 37632-26-1P 52364-31-5P 97713-98-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(P-containing crosslinking agents for flame-retardant hardened epoxy resins)

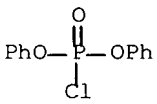
IT 101-77-9DP, Diaminodiphenylmethane, polymers, reaction products with P-containing aromatic compds. 106-50-3DP, p-Phenylenediamine, polymers, reaction products with P-containing aromatic compds. 108-78-1DP, Melamine, novolaks, reaction products with P-containing aromatic compds. 603-44-1DP, polymers, reaction products with P-containing aromatic compds. 603-44-1DP,

reaction products with P-containing aromatic compds. 884-74-2DP, reaction products with novolaks 1499-21-4DP, reaction products with novolaks 2524-64-3DP, reaction products with novolaks 7727-33-5DP, 1,1,2,2-Tetrakis(4-hydroxyphenyl)ethane, phenolic resins, reaction products with P-containing aromatic compds. 32186-92-8DP, reaction products with novolaks 35948-26-6DP, reaction products with novolaks 52364-31-5DP, reaction products with novolaks
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(crosslinking agents; for flame-retardant hardened epoxy resins)

IT 50-00-0, Formaldehyde, reactions 67-64-1, Acetone, reactions 78-93-3, 2-Butanone, reactions 90-43-7, o-Phenylphenol 108-95-2, Phenol, reactions 4559-70-0, Diphenyl phosphine oxide 4712-55-4, Diphenyl phosphite 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in crosslinking agent preparation; P-containing crosslinking agents
for flame-retardant hardened epoxy resins)

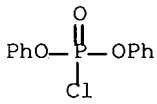
IT 2524-64-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(P-containing crosslinking agents for flame-retardant hardened epoxy resins)

RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



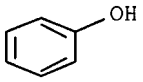
IT 2524-64-3DP, reaction products with novolaks
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(crosslinking agents; for flame-retardant hardened epoxy resins)

RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)

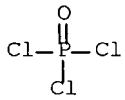


IT 108-95-2, Phenol, reactions 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in crosslinking agent preparation; P-containing crosslinking agents
for flame-retardant hardened epoxy resins)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



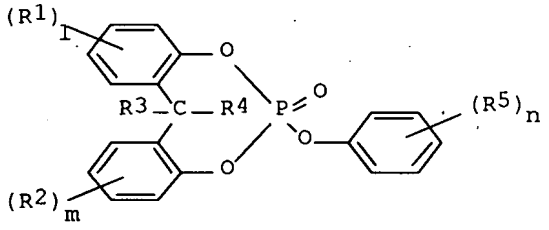
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 13 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:586498 HCAPLUS Full-text
DOCUMENT NUMBER: 135:167520
TITLE: Aromatic cyclic phosphate esters useful for fireproofing agents
INVENTOR(S): Tando, Kazushi; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001220395	A	20010814	JP 2000-30285	20000208 <--
PRIORITY APPLN. INFO.:			JP 2000-30285	20000208 <--
OTHER SOURCE(S):	MARPAT 135:167520			

GI



I

AB Aromatic cyclic phosphate esters I (R1, R2, R5 = Me; R3, R4 = H, Me; l, m, n = 0-2) are prepared Thus, a composition containing Panlite L 1225 (bisphenol A polycarbonate) 95.7, Polyflon FA 500 (PTFE) 0.3, and I (R3, R4 = H; l, m, n = 0; prepared from Ph dichlorophosphate and 2,2'-methylenebisphenol) 4 parts was injection-molded to give a test piece showing UL-94 rating V-0.

IC ICM C07F009-6574
ICS C09K021-12

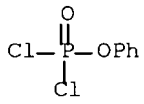
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 28

IT 770-12-7P, Phenyl dichlorophosphate 18350-98-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aromatic cyclic phosphate esters useful for fireproofing agents)

IT 108-95-2, Phenol, reactions 576-26-1, 2,6-Xylenol 2467-02-9, 2,2'-Methylenebisphenol 3236-63-3, 2,2'-Methylenebis(4-methylphenol) 7719-12-2, Phosphorus trichloride 10025-87-3, Phosphorus oxychloride 108840-12-6 197861-51-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic cyclic phosphate esters useful for fireproofing agents)

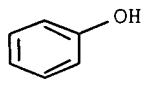
IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aromatic cyclic phosphate esters useful for fireproofing agents)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

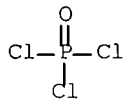


IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic cyclic phosphate esters useful for fireproofing agents)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



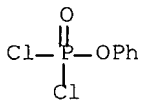
L46 ANSWER 14 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:290907 HCAPLUS Full-text
DOCUMENT NUMBER: 134:311927
TITLE: Fire-resistant polycarbonate resin compositions
INVENTOR(S): Tando, Kazushi; Sato, Takahiro; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001115036	A	20010424	JP 1999-293770	19991015 <--
JP 3775952	B2	20060517		

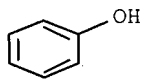
PRIORITY APPLN. INFO.: JP 1999-293770 19991015 <--

AB Title compns. comprise (A) polycarbonate resins 40-99, (B) thermoplastic resins other than polycarbonates 0-55, and (C) cyclic phosphoric acid ester compds. 1-20 parts, where m, n = integer 0-5, R1 = C1-15 aliphatic hydrocarbons and C3-14 aromatic hydrocarbons, and R3, R3 = C1-20 alkyl, aralkyl, or aryl. Thus, phosphorus oxychloride 5757.7, magnesium chloride anhydrous 15.53, and phenol 1024.3 g in chlorobenzene were heated at 110° for 30 min to give monophenyl dichlorophosphate, 300.4 g of which in dioxane was added dropwise to 259.9 g 2,2'-biphenol in dioxane, refluxed for 1.5 h to give biphenyl Ph phosphate. Panlite L 1225WP 96, biphenyl Ph phosphate 4, Polyflon FA 500 0.3, tri-Me phosphate 0.05 parts were mixed, extruded at 260° to give pellets, pellets were dried at 90° for 4 h, and molded at 260° to give a test piece showing HTD (ASTM D 648) 110° and fire-retardance (UL 94) V-2.

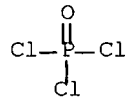
IC ICM C08L101-00
ICS C08K005-527; C08L069-00; C09K021-14; C08L101-00; C08L023-04; C08L027-12
CC 37-6 (Plastics Manufacture and Processing)
IT 770-12-7P, Phenyl dichlorophosphate 63392-65-4P 335281-82-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of fire-resistant polycarbonate resin compns.)
IT 108-39-4, m-Cresol, reactions 108-95-2, Phenol, reactions 576-26-1, 2,6-Dimethylphenol 1806-29-7, 2,2'-Biphenol 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of fire-resistant polycarbonate resin compns.)
IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of fire-resistant polycarbonate resin compns.)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of fire-resistant polycarbonate resin compns.)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



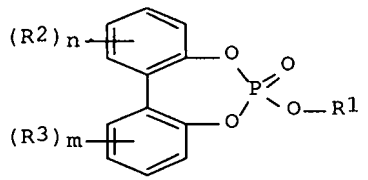
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 15 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:288895 HCAPLUS Full-text
DOCUMENT NUMBER: 134:311904
TITLE: Fire-resistant styrene polymer compositions with good heat resistance and moldability
INVENTOR(S): Yamanaka, Katsuhiro; Tandou, Kazushi; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001114972	A	20010424	JP 1999-293771	19991015 <--
JP 3942328	B2	20070711		

PRIORITY APPLN. INFO.: JP 1999-293771 19991015 <--
OTHER SOURCE(S): MARPAT 134:311904
GI



I

AB The compns. comprise (A) 100 parts thermoplastic polymer compns. containing ≥50% styrene polymers modified with rubbers and (B) 1-70 parts organic P compds. containing ≥50% cyclic P compds. I [R1 = C1-15 aliphatic hydrocarbon group, (un)substituted C3-14 aromatic hydrocarbon group; R2, R3 = C1-15 aliphatic hydrocarbon group (linked to biphenyl via O or S), (un)substituted C3-14 aromatic hydrocarbon group (linked to biphenyl via O, S, C1-4 aliphatic hydrocarbon group); m, n = 0-4]. Thus, a composition containing 100 parts polystyrene containing 7.9% butadiene rubber and 15 parts I (R1= phenyl; m, n = 0) was injection-molded to give a test piece showing deflection temperature under load (ASTM D 64, 1/4 in.) 60.2° and UL-94 rating V-2.

IC ICM C08L051-04
ICS C08K005-527; C08L101-00; C09K021-12; C07F009-6574

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 39

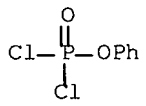
IT 770-12-7P, Phenyl dichlorophosphate 940-18-1P 18350-98-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(fire-resistant styrene polymer compns. with good heat resistance and moldability)

IT 108-39-4, reactions 108-95-2, Phenol, reactions 576-26-1, 2,6-Dimethylphenol 1806-29-7, 2,2'-Biphenol 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(fire-resistant styrene polymer compns. with good heat resistance and moldability)

IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(fire-resistant styrene polymer compns. with good heat resistance and moldability)

RN 770-12-7 HCAPLUS

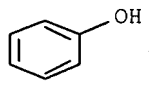
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



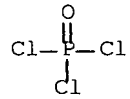
IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(fire-resistant styrene polymer compns. with good heat resistance and moldability)

RN 108-95-2 HCAPLUS

CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 16 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:592724 HCAPLUS Full-text
DOCUMENT NUMBER: 133:192981
TITLE: Process for producing phosphorohalidate
INVENTOR(S): Fujita, Yasunori
PATENT ASSIGNEE(S): Daihachi Chemical Industry Co., Ltd., Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000049024	A1	20000824	WO 2000-JP508	20000128 <--
W: CA, CN, ID, KR, MX, SG, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000239286	A	20000905	JP 1999-37480	19990216 <--
JP 3793867	B2	20060705		
CA 2362069	A1	20000824	CA 2000-2362069	20000128 <--
CA 2362069	C	20070703		
EP 1153929	A1	20011114	EP 2000-902011	20000128 <--
EP 1153929	B1	20030409		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 236909	T	20030415	AT 2000-902011	20000128 <--
US 6462216	B1	20021008	US 2001-913144	20010808 <--
MX 2001PA08259	A	20021023	MX 2001-PA8259	20010815 <--
PRIORITY APPLN. INFO.:			JP 1999-37480 A	19990216 <--
			WO 2000-JP508 W	20000128 <--

OTHER SOURCE(S): CASREACT 133:192981
AB Described is a process for producing a phosphorohalidate characterized in that a crude reaction product obtained by reacting a phosphorus oxyhalide with an aromatic hydroxy compound in the presence of a Lewis acid catalyst is purified

by distillation in the presence of an alkali metal salt. Distillation in the presence of an alkali metal salt suppresses disproportionation reaction. By the process, a high-purity phosphorohalidate can be produced in high yield which contains no impurities such as the phosphorus oxyhalide and aromatic hydroxy compound used as starting materials and the catalyst. Thus, phenol 752, phosphorus oxychloride 1,842, and MgCl2 2 g were placed in a 2 L flask, mixed with warming, and gradually heated to 95° over a period of 7 h, during which HCl(g) generated was introduced to a scrubber. The pressure was gradually reduced to 100 mmHg and the temperature was raised to 120° to recover excess phosphorus oxychloride to give crude product (1,730.2 g) consisting of phosphorus oxychloride 7.6, Ph phosphorodichloridate (I) 84.7, and di-Ph phosphorochloridate (II) 7.7 weight%. A mixture of the crude product (861 g) and 1.1 g Na2CO3 was distilled and fractionated at 31 mmHg to give a distillation fraction consisting of 676.1 g I (99.8% weight% purity) and 1.4 g II.

IC ICM C07F009-12
ICS C07F009-14

CC 25-8 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 115-86-6P, Triphenyl phosphate 2524-64-3P, Diphenyl phosphorochloridate
RL: BYP (Byproduct); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)

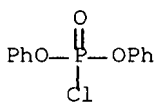
IT 770-12-7P, Phenyl phosphorodichloridate
RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)

IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)

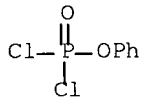
IT 2524-64-3P, Diphenyl phosphorochloridate
RL: BYP (Byproduct); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)

RN 2524-64-3 HCAPLUS

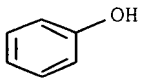
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



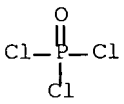
IT 770-12-7P, Phenyl phosphorodichloridate
RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of phosphorohalidate by condensation of phosphorus oxyhalide with aromatic hydroxy compound and distillation in presence of alkali metal salt
for purification)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



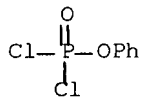
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



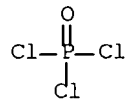
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 17 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:63068 HCAPLUS Full-text
DOCUMENT NUMBER: 132:208670
TITLE: Synthesis and flame retardation mechanism of polyphenyl phosphates
AUTHOR(S): Wang, Xiaomei; Yang, Ping; Ou, Yuxiang; Lu, Yan;

Zhang, Ying
CORPORATE SOURCE: Institute of Crystal Materials, Shandong University, Ji'nan, 250100, Peop. Rep. China
SOURCE: Yingyong Huaxue (1999), 16(6), 86-88
CODEN: YIHUED; ISSN: 1000-0518
PUBLISHER: Yingyong Huaxue Bianji Weiyuanhui
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Polyphenyl phosphates (PPP) were synthesized by solution polycondensation of phenylphosphoric dichloride with benzenediol in the presence of pyridine at room temperature The optimum molar ratio for the synthesis was n(-OH):n(-Cl):n(Py) = 1.4:1.0:2.4. The structures of PPPs were characterized by IR and 1H NMR. PPPs with d.p. of 43.apprx.45 possessed good flame retardance (limiting oxygen index >25.5). The flame retardant property of PPP towards epoxide resin E-44 was discussed in relation to the d.p. of the polymers.
CC 37-6 (Plastics Manufacture and Processing)
IT 770-12-7P, Phenylphosphoric dichloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization with benzenediol)
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenol)
IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phosphoryl chloride)
IT 770-12-7P, Phenylphosphoric dichloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization with benzenediol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

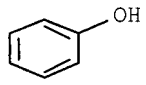


IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)

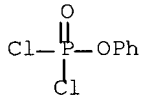


L46 ANSWER 18 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:36588 HCAPLUS Full-text
DOCUMENT NUMBER: 132:51113
TITLE: Nitrogen-containing phosphate fire retardants for poly(ethylene terephthalate) fiber fabrics and their preparation
INVENTOR(S): Cho, Wan; Cho, Yongsik; Seo, Wooman
PATENT ASSIGNEE(S): Guk, Inyoung, S. Korea
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

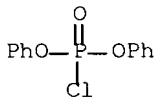
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1155601	A	19970730	CN 1996-122640	19961022 <--
CN 1078646	B	20020130		

PRIORITY APPLN. INFO.: CN 1996-122640 19961022 <--
OTHER SOURCE(S): MARPAT 132:51113
AB The fire retardants, useful for PET fabrics with good fire resistance and durability, are N-containing phosphoric acid esters (R1)2P(O)R2 or R1OP(O)(R2)R3 [R1 = alkyl, allyl, or phenyl; R2, R3 = amino, melamine group, -NHCONH2, -NHCOOR1, -NH(CH2)nNH2, and -NH-p-C6H4NH2]. The fire retardant is prepared by reacting a halogen-containing phosphoric acid ester with a N-containing compound selected from urea, melamine, aminoformate, amine, diamine, or aryldiamine in an inert gas atmospheric
IC ICM D06M015-43
CC 40-9 (Textiles and Fibers)
Section cross-reference(s): 37
IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nitrogen-containing phosphate fire retardants for poly(ethylene
terephthalate) fiber fabrics)
IT 57-13-6, Urea, reactions 107-10-8, Propylamine, reactions 108-78-1, 1,3,5-Triazine-2,4,6-triamine, reactions 108-95-2, Phenol, reactions 124-09-4, 1,6-Hexanediamine, reactions 10025-87-3, Phosphoric trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation of nitrogen-containing phosphate fire retardants
for poly(ethylene terephthalate) fiber fabrics)
IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP

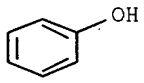
(Preparation); RACT (Reactant or reagent)
(preparation of nitrogen-containing phosphate fire retardants for poly(ethylene
terephthalate) fiber fabrics)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



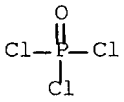
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphoric trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation of nitrogen-containing phosphate fire retardants
for poly(ethylene terephthalate) fiber fabrics)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 19 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN

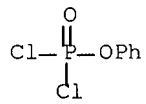
ACCESSION NUMBER: 1999:603563 HCAPLUS Full-text
DOCUMENT NUMBER: 131:229602
TITLE: Polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance
INVENTOR(S): Sato, Takahiro; Mukai, Akihiro; Taketani, Yutaka; Kobayashi, Yasuaki
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11256022	A	19990921	JP 1998-56774	19980309 <--
JP 3899178	B2	20070328		
PRIORITY APPLN. INFO.:			JP 1998-56774	19980309 <--

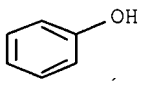
OTHER SOURCE(S): MARPAT 131:229602

AB The composition comprises a mixture of a polycarbonate 40-97, a thermoplastic 0-45 and a cyclic phosphate of P(O)2OOR (R = C3-20 Ph, naphthyl, anthryl, pyridyl, triacyl) 2.5, a fluoropolymer 0.01-3% containing 80 phr talc, wherein the weight ratio of P in the phosphate and the talc is ≥0.25. Thus, a composition was made from Panlite L 1225WP 73.7, Santac UT 61, a diphenylpentaerythritol diphosphate, prepared by the reaction of 5757.7 g phosphorus oxychloride and 1024.3 g phenol in chlorobenzene in the presence of anhydride MgCl2 then with 3000 g pyridine and 300 g pentaerythritol, 6.0, Polyflon FA 500 0.3 and talc 0.3 part.

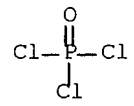
IC ICM C08L069-00
ICS C08K013-02; C08L069-00; C08L101-00; C08L027-12; C08L025-04; C08L067-02; C08K005-523; C08K003-34
CC 37-6 (Plastics Manufacture and Processing)
IT 770-12-7P 18350-98-6P 18351-36-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)
IT 98-54-4 108-95-2, Phenol, reactions 110-86-1, Pyridine, reactions 115-77-5, reactions 576-26-1 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)
IT 770-12-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(polycarbonate-based thermoplastic fire-resistant composition with good heat
and impact resistance)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 20 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:603562 HCAPLUS Full-text
DOCUMENT NUMBER: 131:229601
TITLE: Fire- and heat-resistant polycarbonate-polyester blend compositions containing cyclic phosphates and inorganic salts
INVENTOR(S): Sato, Takahiro; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11256021	A	19990921	JP 1998-56773	19980309 <--
JP 3899177	B2	20070328		
PRIORITY APPLN. INFO.:			JP 1998-56773	19980309 <--

AB Title compns. comprise (A) polycarbonates 96-40, (B) polyesters 1-55, (C) cyclic phosphates 2-20, (D) inorg. salts selected from carbonates and phosphates of alkaline earth metals ≤10, and (E) fluoropolymers 0.01-3 parts, where A + B + C + D + E = 100 parts and mol ratios of P atoms (from component C) to D ≥0.02. Thus, a composition comprising Panlite L 1225WP 55.7, TR 8580 30, di-Ph pentaerythritol diphosphate (preparation given) 12, Polyflon FA 500 0.3, and calcium carbonate 2 parts gave flammability (UL 94) V-0 and deflection temperature (JIS K 7207, 18.5 kg/cm2-load) 104°.

IC ICM C08L069-00
ICS C08K013-02; C08L069-00; C08L067-02; C08L027-12; C08K005-523; C08K003-26; C08K003-32

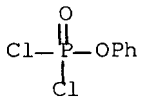
CC 37-6 (Plastics Manufacture and Processing)

IT 770-12-7P, Phenyl dichlorophosphate 18350-98-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of cyclic phosphates for fire- and heat-resistant polycarbonate-polyester blend compns.)

IT 98-54-4, 4-tert-Butylphenol 108-95-2, Phenol, reactions 115-77-5, Pentaerythritol, reactions 576-26-1, 2,6-Dimethylphenol 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of cyclic phosphates for fire- and heat-resistant polycarbonate-polyester blend compns.)

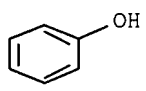
IT 770-12-7P, Phenyl dichlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of cyclic phosphates for fire- and heat-resistant polycarbonate-polyester blend compns.)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

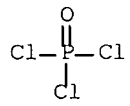


IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of cyclic phosphates for fire- and heat-resistant polycarbonate-polyester blend compns.)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 21 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:556837 HCAPLUS Full-text
DOCUMENT NUMBER: 131:200797
TITLE: Heat- and impact-resistant polycarbonate compositions containing cyclic phosphate ester/inorganic salt flame retardants
INVENTOR(S): Sato, Takahiro; Mukai, Akihiro; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11236497	A	19990831	JP 1998-56775	19980309 <--
JP 3948812	B2	20070725		

PRIORITY APPLN. INFO.: JP 1997-351056 A 19971219 <--

AB The compns. contain polycarbonates 40-97, styrene polymers 0-55, cyclic phosphate esters having the skeleton OP(:O)(O)OR [R = C3-20 group selected from (un)substituted Ph, naphthyl, anthryl, pyridyl, and triazyl] 2-20, alkaline earth metal carbonate and/or phosphate salts ≤10, and fluoropolymers 0.01-3 parts, wherein the total of the components above is 100 parts and ratio of (mol number of the inorg. salts)/(mol number of P in the phosphate esters) is ≥0.02. Thus, Panlite L 1225WP (polycarbonate) 73.4, Santac UT 61 (ABS resin) 20.0, di-Ph pentaerythritol diphosphate (preparation given) 6.0, Polyflon FA 500 (PTFE) 0.3, and CaCO3 0.3 part were pelletized and injection-molded to give test pieces showing UL-94 flame retardance rating V-1 and deflection temperature under load (18.5 kg/cm2) 107°.

IC ICM C08L069-00
ICS C08K003-26; C08K003-32; C08K005-521; C08L069-00; C08L025-04; C08L027-12

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 25

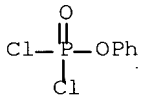
IT 770-12-7P 18350-98-6P 18351-36-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of cyclic phosphate esters; heat- and impact-resistant polycarbonate compns. containing cyclic phosphate ester/inorg. salt flame retardants)

IT 98-54-4 108-95-2, Phenol, reactions 115-77-5, reactions 576-26-1 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of cyclic phosphate esters; heat- and impact-resistant polycarbonate compns. containing cyclic phosphate ester/inorg. salt flame retardants)

IT 770-12-7P

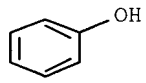
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of cyclic phosphate esters; heat- and impact-resistant polycarbonate compns. containing cyclic phosphate ester/inorg. salt flame retardants)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

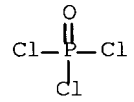


IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of cyclic phosphate esters; heat- and impact-resistant polycarbonate compns. containing cyclic phosphate ester/inorg. salt flame retardants)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 22 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:300623 HCAPLUS Full-text
DOCUMENT NUMBER: 129:4751
TITLE: Process for the formation of hydrocarbyl bis(hydrocarbyl phosphate)
INVENTOR(S): Bright, Danielle A.; Pirrelli, Ronald L.
PATENT ASSIGNEE(S): Akzo Nobel N, Neth.
SOURCE: U.S., 4 pp., Cont.-in-part of U.S. Ser. No. 332,671.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

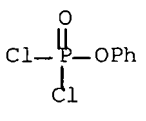
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5750756	A	19980512	US 1996-681735	19960729 <--
US 6136997	A	20001024	US 1994-332671	19941101 <--
CN 1167488	A	19971210	CN 1995-196541	19951020 <--
CN 1076354	B	20011219		
WO 9804566	A1	19980205	WO 1997-EP3871	19970714 <--
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 915891	A1	19990519	EP 1997-932839	19970714 <--
EP 915891	B1	20020102		
R: DE, FR, GB, IT				
JP 2000516587	T	20001212	JP 1998-508450	19970714 <--

PRIORITY APPLN. INFO.:
US 1994-332671 A2 19941101 <--
US 1996-681735 A 19960729 <--
WO 1997-EP3871 W 19970714 <--

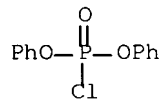
OTHER SOURCE(S): CASREACT 129:4751

AB A process for forming a composition containing over, for example, about 90% by weight of an alkylene-arylene bridging group-containing bis(di-Ph phosphate) compound and less than, for example, 10%, by weight, of monophosphate byproduct. This process involves the reaction of a composition containing a di-Ph halophosphate and an alkylene-arylene bridging group-containing diol, in the presence of a catalytic amount of a Lewis acid catalyst, utilizing a means, during the course of the reaction, for removal of hydrohalide byproduct. The preferred means that are used for removal of hydrohalide byproduct include: performing the reaction in a hydrocarbon solvent; utilizing vacuum to remove such byproduct; utilizing sparging with an inert gas; and compatible combinations of one or more of the foregoing means. Thus, reaction of di-Ph chlorophosphate with bisphenol A in the presence of MgCl2 catalyst in heptane gave a mixture of bisphenol A bis(di-Ph phosphate), tri-Ph phosphate, isopropenylphenyl diphenylphosphate.

IC ICM C07F009-12
INCL 558162000
CC 29-7 (Organometallic and Organometalloidal Compounds)
IT 80-05-7, Bisphenol A, reactions 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for formation of hydrocarbyl bis(hydrocarbyl phosphate))
IT 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for formation of hydrocarbyl bis(hydrocarbyl phosphate))
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 23 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:190176 HCAPLUS Full-text
DOCUMENT NUMBER: 128:244191
TITLE: Process for preparing monohydroxy-terminated phosphate compositions
INVENTOR(S): Bright, Danielle A.; Pirrelli, Ronald L.
PATENT ASSIGNEE(S): Akzo Nobel NV, Neth.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5728859	A	19980317	US 1996-742079	19961031 <--
US 5817857	A	19981006	US 1997-880095	19970620 <--
WO 9818802	A1	19980507	WO 1997-EP5983	19971023 <--
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 937087	A1	19990825	EP 1997-950045	19971023 <--
EP 937087	B1	20030910		
R: DE, GB				

PRIORITY APPLN. INFO.: US 1996-742079 A3 19961031 <--
WO 1997-EP5983 W 19971023 <--

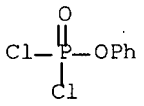
OTHER SOURCE(S): MARPAT 128:244191

AB The present invention is a process for forming monohydroxy-terminated aromatic oligomeric phosphates, HORO[P(O)(OAr)ORO]nP(O)(OAr)2 (Ar = (un)substituted aryl, hydrocarbyl, n = 0-10), by the reaction of a diaryl halophosphate, such as di-Ph chlorophosphate, optionally in the presence of some monoaryl dihalophosphate, with an aromatic diol, such as resorcinol, to form the monohydroxy-terminated aromatic oligomeric phosphate. The reaction preferably employs a Lewis acid catalyst, such as magnesium dichloride. Thus, magnesium dichloride catalyzed reaction of di-Ph chlorophosphate with resorcinol at 110° gave resorcinol bis(diphenyl)phosphate (49.1%), resorcinol di-Ph phosphate (41.7%), resorcinol (3.7%), and tri-Ph phosphate (1.00%).

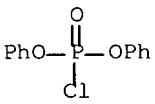
IC ICM C07F009-09
INCL 558099000
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 35
IT 80-05-7, reactions 95-71-6, Toluhydroquinone 108-46-3, 1,3-Benzenediol, reactions 123-31-9, Hydroquinone, reactions 770-12-7, Phenyl dichlorophosphate 1948-33-0, tert-Butylhydroquinone 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparing monohydroxy-terminated phosphate compns.)
IT 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl chlorophosphate

RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparing monohydroxy-terminated phosphate compns.)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 24 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:102880 HCAPLUS Full-text
DOCUMENT NUMBER: 128:154220
TITLE: Preparation of hydrocarbyl bis(dihydrocarbyl phosphate) with improved removal of hydrogen chloride byproduct
INVENTOR(S): Bright, Danielle A.; Pirrelli, Ronald L.
PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9804566	A1	19980205	WO 1997-EP3871		19970714 <--
W: CA, JP					
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
US 5750756	A	19980512	US 1996-681735		19960729 <--
EP 915891	A1	19990519	EP 1997-932839		19970714 <--
EP 915891	B1	20020102			
R: DE, FR, GB, IT					
JP 2000516587	T	20001212	JP 1998-508450		19970714 <--
PRIORITY APPLN. INFO.:			US 1996-681735	A	19960729 <--
			US 1994-332671	A2	19941101 <--
			WO 1997-EP3871	W	19970714 <--

OTHER SOURCE(S): CASREACT 128:154220; MARPAT 128:154220

AB A process for forming a composition containing over, for example, .apprx.90% by weight of an alkylene-arylene bridging group-containing bis(di-Ph phosphate) compound, (RO)2P(O)OR'OP(O)(OR)2 (R = e.g. aryl; R' = -Ar-R''-Ar-, Ar = arylene (e.g. phenylene), R'' = alkylene) and less than, for example, 10% by weight of monophosphate byproduct. This process involves the reaction of a composition containing a diaryl halophosphate, (RO)2P(O)X, and an alkylene-arylene bridging group-containing diol, in the presence of a catalytic amount of a Lewis acid catalyst, using a means, during the reaction, for removal of HX byproduct. The preferred means that were used for removal of hydrohalide byproduct include using vacuum; sparging with an inert gas; vacuum in combination with performing the reaction in a hydrocarbon solvent; sparging with an inert gas in combination with performing the reaction in a hydrocarbon solvent; and vacuum and sparging with an inert gas in combination with performing the reaction in a hydrocarbon solvent. For example, 91% weight/weight bisphenol A bis(di-Ph phosphate) (1), 1.6% O:P(OPh)3, 4.7% isopropenylphenyl di-Ph phosphate and 2.3% of the next higher oligomer of 1 were obtained from 0.5 mol (PhO)2P(O)Cl, 0.25 bisphenol A, 2.63 + 10-3 mol MgCl2 and 20 weight% heptane at reflux using a vacuum of 200 mbar to remove HCl; when N2 sparging was used at the end of the reaction, only 80.4 weight % 1 was obtained.

IC ICM C07F009-12

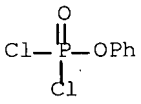
CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 80-05-7, Bisphenol A, reactions 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydrocarbyl bis(dihydrocarbyl phosphate) with improved removal of hydrogen halide byproduct)

IT 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydrocarbyl bis(dihydrocarbyl phosphate) with improved removal of hydrogen halide byproduct)

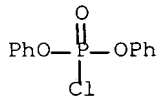
RN 770-12-7 HCAPLUS

CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS

CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

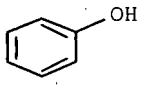
L46 ANSWER 25 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:35999 HCAPLUS Full-text
DOCUMENT NUMBER: 128:154225
TITLE: Preparation of aromatic group-monosubstituted dichlorophosphates as intermediates for phosphoric acid esters as modifiers for thermoplastic resins
INVENTOR(S): Shimizu, Yasuhiro
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10007690	A	19980113	JP 1996-159693	19960620 <--
PRIORITY APPLN. INFO.:			JP 1996-159693	19960620 <--

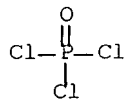
OTHER SOURCE(S): CASREACT 128:154225; MARPAT 128:154225

AB ArOP(O)Cl2 [Ar = (halo-substituted) C6-15 aromatic] are prepared by reaction of Cl3P(O) with ArOH (Ar = same as above) in the presence of Mg, MgCl2, and/or MgO catalysts under successively or intermittently flowing dry inert gases at normal pressure. Thus, PhOH reacted with Cl3P(O) [PhOH:Cl3P(O) = 3.5:1.0 (mol ratio)] in the presence of Mg in PhCl at 110° under flowing N for 1 h to give 98% PhOP(O)Cl2.

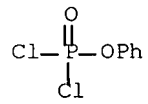
IC ICM C07F009-14
ICS B01J023-02; B01J027-138; C07B061-00
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 37
IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic dichlorophosphates by condensation of phenols with phosphorus oxychloride in presence of Mg catalysts)
IT 770-12-7P, Phenyl dichlorophosphate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aromatic dichlorophosphates by condensation of phenols with phosphorus oxychloride in presence of Mg catalysts)
IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic dichlorophosphates by condensation of phenols with phosphorus oxychloride in presence of Mg catalysts)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)

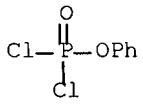


IT 770-12-7P, Phenyl dichlorophosphate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aromatic dichlorophosphates by condensation of phenols with phosphorus oxychloride in presence of Mg catalysts)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

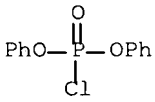


L46 ANSWER 26 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:102652 HCAPLUS Full-text
DOCUMENT NUMBER: 126:171656
TITLE: Synthesis of asymmetric triaryl phosphates via phase-transfer catalysis
AUTHOR(S): Genkina, G. K.; Shipov, A. E.; Mastryukova, T. A.; Kabachnik, M. I.
CORPORATE SOURCE: Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow, Russia
SOURCE: Zhurnal Obshchei Khimii (1996), 66(11), 1788-1790
CODEN: ZOKHA4; ISSN: 0044-460X
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 126:171656
AB Reaction of (PhO)2P(O)Cl or PhOP(O)Cl2 with ROH (R = 3,5-Me2C6H3, 3-tolyl, 4-MeOC6H4, 4-ClC6H4, 4-MeCOC6H4, 4-O2NC6H4) in PhMe containing PhCH2NEt3Cl and/or saturated aqueous NaOH gave 83-92% (PhO)2P(O)OR (same R) or 26-88% PhOP(O)(OR)2 (R = 3,5-Me2C6H3, 3-tolyl, 4-MeOC6H4, 4-MeCOC6H4, 4-O2NC6H4). In general, use of phase-transfer catalysis (PhCH2NEt3Cl catalyst) and 30% aqueous NaOH gave the best yields. Yields of phosphates decreased with increasing electronegativity of the substituents on the phenolic benzene ring; the order of reagent addition was important here.
CC 29-7 (Organometallic and Organometalloidal Compounds)
IT Phenols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of asym. triaryl phosphates via phase-transfer catalysis)
IT 99-93-4, 4-Acetylphenol 100-02-7, 4-Nitrophenol, reactions 106-48-9, 4-Chlorophenol 108-39-4, 3-Methylphenol, reactions 108-68-9, 3,5-Dimethylphenol 150-76-5, 4-Methoxyphenol 770-12-7, Dichloro(phenoxy)phosphine oxide 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of asym. triaryl phosphates via phase-transfer catalysis)
IT 770-12-7, Dichloro(phenoxy)phosphine oxide 2524-64-3,
Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of asym. triaryl phosphates via phase-transfer catalysis)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)

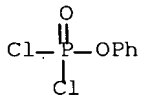


L46 ANSWER 27 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:579833 HCAPLUS Full-text
DOCUMENT NUMBER: 125:222168
TITLE: Preparation of aryl chlorophosphates by quaternary phosphonium-catalyzed reaction of phenols with phosphorus oxychloride
INVENTOR(S): Kato, Mutsuno; Hara, Yoshifusa
PATENT ASSIGNEE(S): Nippon Chemical Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

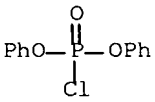
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08176164	A	19960709	JP 1994-334599	19941220 <--
PRIORITY APPLN. INFO.:			JP 1994-334599	19941220 <--

OTHER SOURCE(S): CASREACT 125:222168
AB Aryl chlorophosphates, useful as intermediates for drugs, agrochems., plasticizers, and fireproofing agents for synthetic polymers, are prepared by treatment of phenols, which may also have substituent(s) on the Ph ring, with POCl3 in the presence of quaternary phosphonium salts. The relative proportions of aryl dichlorophosphates or diaryl chlorophosphate produced is changed by increasing or decreasing the ratio of POCl3 to phenols, resp. A mixture of POCl3 (0.02M), PhOH (0.025M), and Et4P+ Br- was stirred under heating at 140° for 4 h to give 32.0% (based on POCl3) (PhO)2P(O)Cl and 44.8% PhOP(O)Cl2.

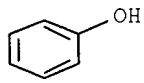
IC ICM C07F009-14
ICS B01J031-02
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 37, 40
IT 770-12-7P, Phenyl phosphorodichloridate 940-18-1P, 3-Methylphenyl dichlorophosphate 2524-64-3P, Diphenyl phosphorochloridate 6630-14-4P, Bis(3-methylphenyl) chlorophosphate 14254-41-2P, Bis(2,4-dichlorophenyl) chlorophosphate 19430-75-2P, 2,4-Dichlorophenyl dichlorophosphate 34283-78-8P, Tetrahexylphosphonium bromide
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of (di)aryl phosphoro(di)chloridates by quaternary phosphonium-catalyzed reaction of phenols with POCl3)
IT 108-39-4, reactions 108-95-2, Phenol, reactions 120-83-2, 2,4-Dichlorophenol 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (di)aryl phosphoro(di)chloridates by quaternary phosphonium-catalyzed reaction of phenols with POCl3)
IT 770-12-7P, Phenyl phosphorodichloridate 2524-64-3P, Diphenyl phosphorochloridate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of (di)aryl phosphoro(di)chloridates by quaternary phosphonium-catalyzed reaction of phenols with POCl3)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



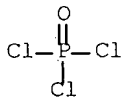
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (di)aryl phosphoro(di)chloridates by quaternary phosphonium-catalyzed reaction of phenols with POCl3)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 28 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:913784 HCAPLUS Full-text
DOCUMENT NUMBER: 124:57079
TITLE: Manufacture of poly (hydrocarbylene aryl phosphate) compositions
INVENTOR(S): Brady, Bill L.; Bright, Danielle A.; Schafer, Francis M.
PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
SOURCE: U.S., 5 pp. Cont.-in-part of U.S. Ser. No. 25,708, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

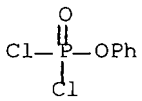
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5457221	A	19951010	US 1993-152546	19931115 <--
EP 613902	A1	19940907	EP 1994-200441	19940222 <--
EP 613902	B1	19981209		
R: DE, FR, GB, IT, NL				
CA 2116802	A1	19940904	CA 1994-2116802	19940302 <--
CA 2116802	C	20060509		
JP 06316586	A	19941115	JP 1994-58104	19940303 <--
JP 3270619	B2	20020402		

PRIORITY APPLN. INFO.: US 1993-25708 B2 19930303 <--
US 1993-152546 A 19931115 <--

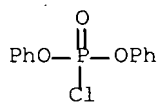
AB Arylene poly(diarylphosphate) compns. can be formed by (a) forming a reaction mixture comprising diaryl halophosphate and, as byproducts, a mixture of monoaryl dihalophosphate and triarylphosphate, by reaction of phosphorus oxyhalide e.g. phosphorous oxytrichloride and a phenol in a first reactor; (b) optionally transferring the reaction mixture from (a) to a subsequent reactor where at least a portion of the monoaryl dihalophosphate is recycled to the first reactor for reaction with the phenol to form addnl. diaryl halophosphate in the first reactor and the reaction mixture in (b) becomes enriched with diaryl halophosphate to ultimately favor the ultimate formation of a product of lower mol. weight distribution; and (c) reacting the product from (a) or (b), as selected, with an aromatic diol e.g. resorcinol, to form the arylene

poly(diarylphosphate) product. If a higher amount of oligomer is desired, the DPCP/MPCP is lowered, if higher amount of lower oligomer is desired, the ratio is raised. A diagram shows a production facility reaction process for making the title product.

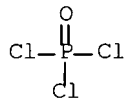
IC ICM C07F009-12
INCL 558099000
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 45
IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P, Diphenyl chlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with aromatic diol)
IT 10025-87-3, Phosphorus oxytrichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenol)
IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phosphorous oxytrichloride)
IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P, Diphenyl chlorophosphate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with aromatic diol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



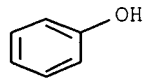
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



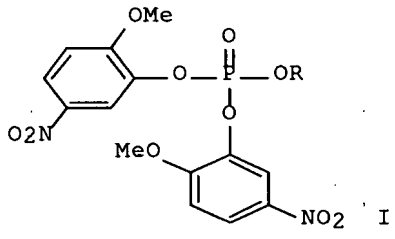
IT 10025-87-3, Phosphorus oxytrichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phosphorous oxytrichloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



L46 ANSWER 29 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:353512 HCAPLUS Full-text
DOCUMENT NUMBER: 123:56035
TITLE: Phosphomonoesters and phosphodiesters derived from the photohydrolysis of 2-methoxy-5-nitrophenyl substituted phosphotriesters
AUTHOR(S): Graciani, Nilsa R.; Swanson, Daniel S.; Kelley, Jeffery W.
CORPORATE SOURCE: Dep. Chem., Texas A and M Univ., College Station, TX, 77843-3255, USA
SOURCE: Tetrahedron (1995), 51(4), 1077-86
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 123:56035
GI



AB Phosphotriesters composed of one or two 2-methoxy-5-nitrophenyl group(s), e.g., I (R = Me, Ph), can be quant. photohydrolyzed in aqueous MeCN to yield

the desired phosphodiester, (RO)2P(O)O- or phosphomonoester, ROP(O)(O-)2 resp. Photohydrolysis occurs by attack of hydroxide at both the phosphoryl P and at the ipso-C in the triplet exited state of the 2-methoxy-5-nitrophenyl substituted phosphoesters. The photophys. studies described within imply that this type of reaction may be synthetically useful.

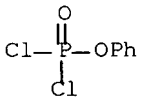
CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 100-27-6, 4-Nitrophenethyl alcohol 636-93-1, 2-Methoxy-5-nitrophenol 770-12-7, Phenylphosphoric dichloride 814-49-3, Diethyl phosphoric chloride 921-26-6 1498-51-7, Ethyl phosphoric dichloride 2524-64-3, Diphenyl phosphoric chloride 29885-95-8, N-Methylanilinium trifluoroacetate 161772-13-0 161772-14-1 161772-15-2 161772-16-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphomonoesters and phosphodiesters derived from the photohydrolysis of methoxynitrophenyl substituted phosphotriesters)

IT 770-12-7, Phenylphosphoric dichloride 2524-64-3, Diphenyl phosphoric chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphomonoesters and phosphodiesters derived from the photohydrolysis of methoxynitrophenyl substituted phosphotriesters)

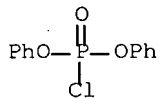
RN 770-12-7 HCAPLUS

CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS

CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 30 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:134689 HCAPLUS Full-text

DOCUMENT NUMBER: 120:134689

TITLE: Synthesis of aryl dichlorophosphates using phase transfer catalysts

AUTHOR(S): Rathore, M.; Kabra, A.; Rani, P.; Narang, C. K.; Mathur, N. K.

CORPORATE SOURCE: Dep. Chem., Univ. Jodhpur, Jodhpur, 342 001, India

SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1993), 32B(10), 1066-7
CODEN: IJSBDB; ISSN: 0376-4699

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 120:134689

AB Synthesis of aryl dichlorophosphates RC6H4OP(O)Cl2 (R = H, 4-O2N, 2-Cl) has been carried out using phase-transfer catalysts by aryloxylation of P(O)Cl3 with either the sodium phenoxide salt or the phenol. In either case, the phenoxide ions are carried from the solid or aqueous phase with the help of a phase-transfer catalyst into the organic phase where the reaction with phosphoryl chloride occurs efficiently. A possible mechanism has been proposed.

CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(phase-transfer catalyzed aryloxylation of)

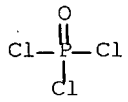
IT 95-57-8, 2-Chlorophenol 100-02-7, 4-Nitrophenol, reactions 108-95-2, Phenol, reactions 139-02-6, Sodium phenoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(phenoxylation by, of phosphoryl chloride, phase-transfer catalyzed)

IT 770-12-7P, Phenyl dichlorophosphate 777-52-6P, 4-Nitrophenyl dichlorophosphate 15074-54-1P, 2-Chlorophenyl dichlorophosphate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via phase-transfer catalyzed aryloxylation of phosphoryl chloride)

IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(phase-transfer catalyzed aryloxylation of)

RN 10025-87-3 HCAPLUS

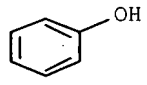
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(phenoxylation by, of phosphoryl chloride, phase-transfer catalyzed)

RN 108-95-2 HCAPLUS

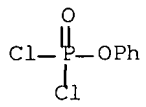
CN Phenol (CA INDEX NAME)



IT 770-12-7P, Phenyl dichlorophosphate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via phase-transfer catalyzed aryloxylation of phosphoryl chloride)

RN 770-12-7 HCAPLUS

CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



L46 ANSWER 31 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:107749 HCAPLUS Full-text
DOCUMENT NUMBER: 120:107749
TITLE: Renin inhibitors
INVENTOR(S): Albright, Jay D.; Sum, Fuk Wah
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: U.S., 36 pp. cont.-in-part of U.S. Ser. No. 577,175, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5189023	A	19930223	US 1991-780587	19911022 <--
CA 2050434	A1	19920305	CA 1991-2050434	19910830 <--
JP 04305587	A	19921028	JP 1991-244256	19910830 <--
PRIORITY APPLN. INFO.:			US 1990-577175 B2	19900904 <--

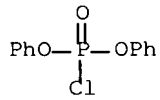
OTHER SOURCE(S): MARPAT 120:107749
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

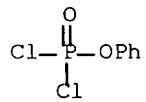
AB Peptide-type compds. I (R1 = phosphorus-containing moiety; R2 = CH2Ph, cyclohexylmethyl, 2-thienylmethyl, indol-3-ylmethyl, 4-methoxybenzyl, naphthylmethyl, C1-6 alkyl; R3 = H or Me; R4 = branched or unbranched C1-8 alkyl, alkylamino, CH2Ph, cyclohexylmethyl, etc.; R5 H or Me; R6 = C1-6 alkyl, CH2Ph, cyclohexylmethyl, etc.; W = O or NR3; Z = O, S, SO, SO2; p = 1 or 2; q = 0 or 1) were prepared as antihypertensive agents due to their ability to act as renin inhibitors. Thus, L-cyclohexylalanine derivative II (Boc = Me3CO2C) was treated with BuLi in THF and then with furan to give a diastereomeric mixture of propanol III, which was reduced by NaBH4 in THF/MeOH to give (4S)-trans-4-(cyclohexylmethyl)-5-(2-furanyl)-2- oxazolidinone, which was cleaved by 1N NaOH in EtOH to give propanol IV (R7 = H). The latter was coupled with (EtO)2P(O)-L-Phe-L-Leu-OH to give peptide derivative IV [R7 = (EtO)2P(O)-L-Phe-L-Leu], which was hydrogenated over Raney Ni in EtOH in a Parr hydrogenator to give peptidyl 4,7-anhydro-1,2,5,6-hepitol derivative V as a mixture of the L-arabino and D-xylo diastereoisomers. V inhibited renin with an IC50 of 2.0 x 10-10 M.
IC ICM A61K037-00
INCL 514019000
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 29, 33
IT 60-12-8, Phenethyl alcohol 540-51-2, 2-Bromoethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phosphorus oxychloride)

IT 62485-00-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with benzyl alc.)
IT 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (leucylamino)anhydrotetradeoxyheptitol derivative)
IT 770-12-7, Phenyl dichlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbamate derivative)
IT 60-12-8, Phenethyl alcohol
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phosphorus oxychloride)
RN 60-12-8 HCAPLUS
CN Benzeneethanol (CA INDEX NAME)

IT 2524-64-3, Diphenyl chlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (leucylamino)anhydrotetradeoxyheptitol derivative)
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 770-12-7, Phenyl dichlorophosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbamate derivative)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



L46 ANSWER 32 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:580524 HCAPLUS Full-text
DOCUMENT NUMBER: 119:180524
TITLE: Preparation of aryl chlorophosphates
INVENTOR(S): Isoda, Yoichiro; Matsuishi, Kazuya
PATENT ASSIGNEE(S): Honshu Chemical Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

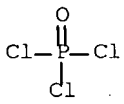
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05132491	A	19930528	JP 1991-293991	19911111 <--
JP 2999036	B2	20000117		

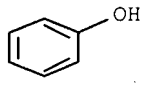
PRIORITY APPLN. INFO.: JP 1991-293991 19911111 <--
OTHER SOURCE(S): CASREACT 119:180524

AB The title compds. are prepared by treating phenols optionally ring-substituted by alkyl, aryl, or halo with POCl3 in the presence of quaternary ammonium salt catalysts. A mixture of POCl3, PhOH, and Me4NCl at 95-110° for 5 h gave 91.0% PhOP(O)Cl2.

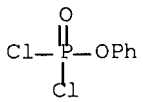
IC ICM C07F009-14
CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols, quaternary ammonium salt catalysts in)
IT 92-69-3, p-Phenylphenol 95-48-7, reactions 95-87-4, 2,5-Xylenol 98-54-4, p-tert-Butylphenol 106-48-9, p-Chlorophenol 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride, quaternary ammonium salt catalysts in)
IT 770-12-7P, Phenyl dichlorophosphate 772-79-2P, p-Chlorophenyl dichlorophosphate 878-17-1P 2524-64-3P, Diphenyl chlorophosphate 6630-15-5P 15074-53-0P 18351-36-5P 38135-31-8P 55231-79-3P 58377-72-3P 77014-57-4P 115188-31-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from phenols and phosphoryl chloride, catalysts in)
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols, quaternary ammonium salt catalysts in)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



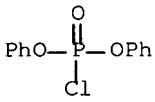
IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride, quaternary ammonium salt catalysts in)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 770-12-7P, Phenyl dichlorophosphate 2524-64-3P, Diphenyl chlorophosphate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from phenols and phosphoryl chloride, catalysts in)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 33 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:251073 HCAPLUS Full-text
DOCUMENT NUMBER: 118:251073
TITLE: Stable phospholipid having cell membrane-like mobility for preparing liposomes
INVENTOR(S): Mori, Hideto; Nishikawa, Naoyuki; Nemori, Ryoichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05023576	A	19930202	JP 1991-186418	19910725 <--
PRIORITY APPLN. INFO.:			JP 1991-186418	19910725 <--

OTHER SOURCE(S): MARPAT 118:251073
AB Phospholipids containing (1) a hydrophobic terpene chain having multiple Me groups, (2) a glycerol structure, and (3) an ester linkage with a choline, H, ethanolamine, serine, or myo-inositol group are prepared for liposome production for use in the medical, pharmaceutical, or cosmetic fields.

Diphytanoylphosphatidylcholine (I) was prepared from (7R,11R)-phytol through reduction, oxidation, and esterification with glycerophosphatidylcholine. Liposomes were prepared with I and dipalmitoylphosphatidylcholine, and tested for leakage and toxicity.

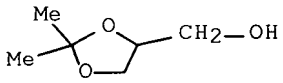
IC ICM B01J013-02
ICS A61K009-127; A61K047-24; C07F009-10

CC 9-15 (Biochemical Methods)
Section cross-reference(s): 62, 63

IT 100-79-8, 1,2-o-Isopropylideneglycerol 150-86-7
770-12-7, Phenyl phosphorodichloridate 773-64-8,
2,4,6-Trimethylbenzenesulfonyl chloride 1738-71-2, Serine benzyl ester
2524-64-3, Diphenyl phosphorochloridate 26690-80-2 56552-80-8
147783-36-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in phospholipid preparation for stable liposomes having cell membrane-like mobility)

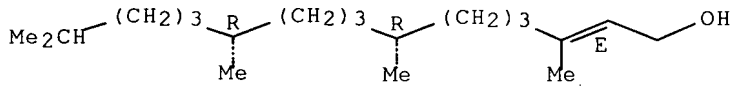
IT 100-79-8, 1,2-o-Isopropylideneglycerol 150-86-7
770-12-7, Phenyl phosphorodichloridate 2524-64-3,
Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in phospholipid preparation for stable liposomes having cell membrane-like mobility)

RN 100-79-8 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (CA INDEX NAME)

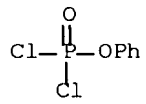


RN 150-86-7 HCAPLUS
CN 2-Hexadecen-1-ol, 3,7,11,15-tetramethyl-, (2E,7R,11R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

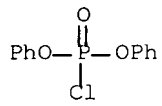


RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS

CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



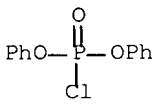
L46 ANSWER 34 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:236420 HCAPLUS Full-text
DOCUMENT NUMBER: 118:236420
TITLE: Manufacture of high-purity diaryl chlorophosphates
INVENTOR(S): Takada, Masaro; Uno, Yukimitsu; Kato, Mutsuno
PATENT ASSIGNEE(S): Nippon Chemical Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05001084	A	19930108	JP 1991-173420	19910619 <--
JP 2985980	B2	19991206		
PRIORITY APPLN. INFO.:			JP 1991-173420	19910619 <--
OTHER SOURCE(S):		MARPAT 118:236420		

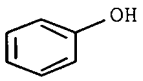
AB Title compds. (ArO)2P(O)Cl (I; Ar = aryl), useful as intermediates for agrochems. and pharmaceuticals, are manufactured in three steps by treating R1OH (R1 = C1-4 alkyl) with POCl3 to give (R1O)P(O)Cl2 (II) in the first step, treating II with a solution of HOAr (Ar = aryl) or its metal salt to give (R1O)P(O)(OAr)2 (III) in the second step, and treating III with PCl5 to give I. The byproduct POCl3 in the third step is reused in the first step, the reaction in the third step is carried out in the presence of an onium salt as catalyst, and I is purified with a mixture of hydrocarbon and halohydrocarbon. A mixture of III and the byproduct diaryl phosphates in the second step is treated with PCl5 to give I and the hydrolysis product of III (namely, diaryl phosphates) is treated with PCl5 to give I. Thus, EtOH was treated with POCl3 to give Et dichlorophosphate (IV) with 98.2% purity, which was treated with 2,4-dichlorophenol in an aqueous NaOH solution to give an oil containing Et bis(2,4-dichlorophenyl) phosphate and 10% bis(2,4-dichlorophenyl) phosphate. The oil was treated with PCl5 in the presence of trioctylmethylammonium chloride to give bis(2,4- dichlorophenyl) chlorophosphate with 85.2% purity in 96.3% yield based on IV.

IC ICM C07F009-14
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 25
IT 2524-64-3P, O,O-Diphenyl chlorophosphate
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of, three-step, from alc. and phenol and phosphorus oxychloride
and phosphorus pentachloride)
IT 106-48-9, p-Chlorophenol 108-39-4, m-Cresol, reactions 108-95-2, Phenol, reactions 120-83-2, 2,4-Dichlorophenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et dichlorophosphate)

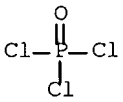
IT 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alcs.)
IT 2524-64-3P, O,O-Diphenyl chlorophosphate
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of, three-step, from alc. and phenol and phosphorus oxychloride
and phosphorus pentachloride)
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et dichlorophosphate)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alcs.)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



L46 ANSWER 35 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:168693 HCAPLUS Full-text
DOCUMENT NUMBER: 118:168693
TITLE: Preparation of branched alkyl phosphates
INVENTOR(S): Nishikawa, Naoyuki; Mori, Hideto
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

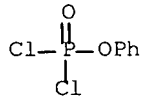
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04282392	A	19921007	JP 1991-45042	19910311 <--
JP 2614149	B2	19970528		
US 5245070	A	19930914	US 1992-847186	19920306 <--
PRIORITY APPLN. INFO.:			JP 1991-45042 A	19910311 <--

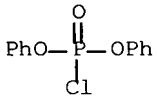
OTHER SOURCE(S): MARPAT 118:168693

AB (R1O)P(O)(OR2)(OR3) (R1-3 = alkyl, aryl, H; ≥1 of R1-3 = 3,7,11,15-tetramethylhexadecyl, 3,7,11-trimethyldodecyl, or 3,7-dimethyloctyl), which are useful as surfactants, lubricants, dispersing agents, emulsifiers, etc., are prepared A solution of 200 g (7R,11R)-phytol in EtOH was treated with H in the presence of Pt oxide at room temperature for 6 h to give 201 g 3RS,7R,11R,15-tetramethylhexadecanol, which (8.94 g) was stirred with 1.53 g POCl3, Et3N, and N,N-dimethylaminopyridine in CH2Cl2 overnight to give 6.8 g tri(3RS,7R,11R,15-tetramethylhexadecyl) phosphate.

IC ICM C07F009-09
CC 23-8 (Aliphatic Compounds)
IT 770-12-7, Phenyl phosphorodichloridate 2524-64-3, Diphenyl phosphorochloridate 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with branched alcs.)
IT 106-24-1, Geraniol 150-86-7 4602-84-0, Farnesol
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)
IT 770-12-7, Phenyl phosphorodichloridate 2524-64-3, Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with branched alcs.)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



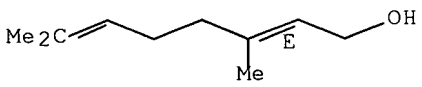
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 106-24-1, Geraniol 150-86-7 4602-84-0, Farnesol

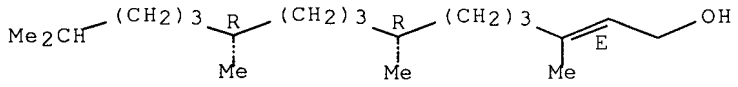
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)
RN 106-24-1 HCAPLUS
CN 2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)- (CA INDEX NAME)

Double bond geometry as shown.

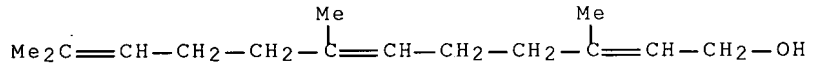


RN 150-86-7 HCAPLUS
CN 2-Hexadecen-1-ol, 3,7,11,15-tetramethyl-, (2E,7R,11R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 4602-84-0 HCAPLUS
CN 2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl- (CA INDEX NAME)



L46 ANSWER 36 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:611795 HCAPLUS Full-text
DOCUMENT NUMBER: 117:211795
TITLE: Electron demand in the transition state of the cyclopropylidene to allene ring opening
AUTHOR(S): Warner, Philip; Sutherland, Robert
CORPORATE SOURCE: Dep. Chem., Iowa State Univ., Ames, IA, 50011, USA
SOURCE: Journal of Organic Chemistry (1992), 57(23), 6294-300
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:211795

AB The electronic structure of the transition state for the cyclopropylidene to allene conversion has been probed. The methodol. involved the relative rates of ring opening vs. trapping by MeOH for a series of variously substituted 2,3-diarylcyclopropylidenes. With the assumption that the rate of trapping was unaffected by substituents, a Hammett correlation was constructed. The neg. value (-0.72) for ρ indicated that the carbenic center attracts electron d. in the ring-opening transition state, much like the cyclopropyl cation to allyl cation transition state. Temperature-dependent studies showed that the

observed preference for ring opening was driven by entropy factors. Also, using reasonable ests. for the close to diffusion-controlled trapping activation enthalpies, the derived enthalpies for ring opening were in close agreement with the best theor. values.

CC 22-5 (Physical Organic Chemistry)

IT 2524-64-3P, Diphenylphosphoryl chloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium azide)

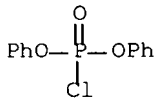
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)

IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorous oxychloride)

IT 2524-64-3P, Diphenylphosphoryl chloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium azide)

RN 2524-64-3 HCAPLUS

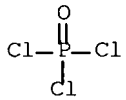
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)

RN 10025-87-3 HCAPLUS

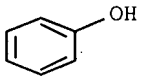
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorous oxychloride)

RN 108-95-2 HCAPLUS

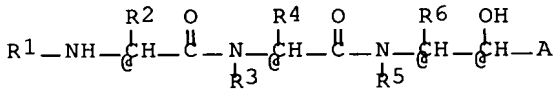
CN Phenol (CA INDEX NAME)



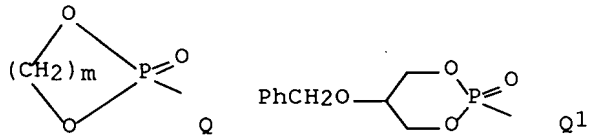
L46 ANSWER 37 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:21465 HCAPLUS Full-text
DOCUMENT NUMBER: 116:21465
TITLE: Preparation N-phosphinyl di- and tripeptides as renin inhibitors
INVENTOR(S): Albright, Jay Donald; Sum, Fuk Wah; Howell, Charles Frederick
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: Eur. Pat. Appl., 87 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
EP 376040	A2	19900704	EP 1989-122840		19891211	<--
EP 376040	A3	19900912				
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE						
CA 2006357	A1	19900627	CA 1989-2006357		19891221	<--
NO 8905233	A	19900628	NO 1989-5233		19891222	<--
AU 8947213	A	19900920	AU 1989-47213		19891222	<--
DK 8906618	A	19900927	DK 1989-6618		19891222	<--
JP 02215798	A	19900828	JP 1989-339881		19891227	<--
ZA 8909926	A	19900926	ZA 1989-9926		19891227	<--
PRIORITY APPLN. INFO.:			US 1988-289899	A	19881227	<--

OTHER SOURCE(S): MARPAT 116:21465
GI



I



Q Q1

AB The title compds. [I; R1 = (substituted) phosphinyl, Q, Q1, etc.; m = 2-4; R2 = PhCH2, 2-thienylmethyl, etc.; R3, R5 = H, Me; R4 = 4-imidazolylmethoxy, 4-imidazolylthio, etc.; R6 = alkyl, PhCH2, cyclohexylmethyl, etc.; A = (substituted) heterocyclyl] were prepared H-Phe-Leu-NHCH[CH2CHMe2]CHQ2OH [Q2 = 2-thiazolyl] was reacted with (EtO)2P(O)Cl in CH2Cl2 containing Et3N To give (EtO)2P(O)-Phe-Leu- NHCH[CH2CHMe2]CHQ2OH. This inhibited renin with IC50 = 4.1 + 10-8M.

IC ICM C07K005-06
ICS C07K005-08; C07K005-02; A61K037-64

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1

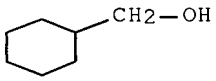
IT 100-49-2, Cyclohexanemethanol 53363-89-6
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in preparation of renin inhibitor)

IT 63-91-2, Phenylalanine, reactions 75-77-4, Trimethylsilyl chloride, reactions 78-83-1, Isobutanol, reactions 98-88-4, Benzoyl chloride 100-51-6, Benzyl alcohol, reactions 108-93-0, Cyclohexanol, reactions 109-04-6, 2-Bromopyridine 110-02-1, Thiophene 288-88-0, 1H-1,2,4-Triazole 298-12-4 527-72-0, 2-Thiophenecarboxylic acid 762-04-9, Diethyl phosphite 770-12-7, Phenyl dichlorophosphate 814-49-3, Diethyl phosphorochloridate 1117-97-1 1161-13-3 2021-58-1 2419-35-4 2488-15-5 2524-64-3, Diphenyl phosphorochloridate 3034-53-5, 2-Bromothiazole 3257-18-9 3459-92-5, Benzyl carbonate 4313-73-9 5815-08-7 6719-79-5 13139-15-6 13734-34-4 15761-39-4 16357-59-8 17176-77-1, Dibenzyl phosphite 17791-52-5 18162-48-6, tert-Butyldimethylsilyl chloride 27527-05-5 35899-43-5 36896-17-0, Acetamidine acetate 58521-45-2 78191-00-1 79265-30-8, 2-(Trimethylsilyl)thiazole 87694-50-6 101226-33-9 115766-13-7 133660-10-3 133660-55-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of renin inhibitors)

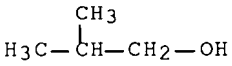
IT 100-49-2, Cyclohexanemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of renin inhibitor)

RN 100-49-2 HCAPLUS
CN Cyclohexanemethanol (CA INDEX NAME)

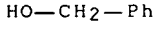


IT 78-83-1, Isobutanol, reactions 100-51-6, Benzyl alcohol, reactions 770-12-7, Phenyl dichlorophosphate 2524-64-3, Diphenyl phosphorochloridate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of renin inhibitors)

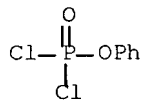
RN 78-83-1 HCAPLUS
CN 1-Propanol, 2-methyl- (CA INDEX NAME)



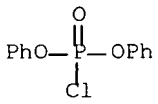
RN 100-51-6 HCAPLUS
CN Benzenemethanol (CA INDEX NAME)



RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



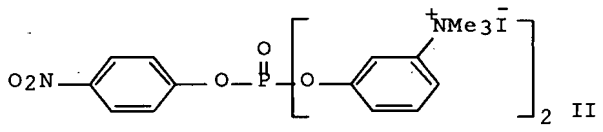
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 38 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:122705 HCAPLUS Full-text
DOCUMENT NUMBER: 114:122705
TITLE: Preparation of bis(aminophenyl) phosphates and analogs as organophosphorus pesticides
INVENTOR(S): Frommer, Moshe A.; Segall, Yoffi; Shirin, Ezra
PATENT ASSIGNEE(S): Ramot Purotech Ltd., Israel
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 4948908	A	19900814	US 1987-73447		19870714 <--
PRIORITY APPLN. INFO.:			IL 1986-79423	A	19860715 <--

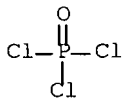
OTHER SOURCE(S): MARPAT 114:122705
GI



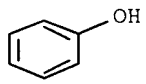
AB Title compds. (R1Y)2P(:Z)ZR2 [I; Z = independently O or S; Y = O, S, NR3; R1 = certain aminophenyl groups or their derivs. or quaternary salts; R2 = H, (substituted) aryl, CH2CO2R3, CH2CONH3, CH:CHCO2R3, CH:CHCONHR!3; R3 = H, alkyl] were prepared as pesticides. Some I can also be polymerized to form

ion exchanges for extraction of heavy metals such as U (no data). For example, reaction of 4-O2NC6H4ONa with POCl3 at ice-salt temperature gave 45% 4-O2NC6H4OP(O)Cl2 (may decompose violently on distillation); this was esterified with 3-Me2NC6H4OH (Et3N, Et2O, reflux) and the product quaternized (MeI, Me2CO, room temperature) to give title phosphate II. At 5.5 + 10-5M and pH 7 in phosphate buffer, II reduced activity of eel acetylcholinesterase to 85% within 30 s.

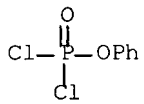
IC ICM C07F009-40
INCL 558193000
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 5, 35
IT 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with phenol or nitrophenolate)
IT 108-95-2, Phenol, reactions 824-78-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with phosphorus oxychloride)
IT 770-12-7P, Phenyl phosphate dichloride
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation of, with nitroaniline or nitrophenyol)
IT 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with phenol or nitrophenolate)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with phosphorus oxychloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



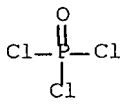
IT 770-12-7P, Phenyl phosphate dichloride
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation of, with nitroaniline or nitrophenyol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



L46 ANSWER 39 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:480425 HCAPLUS Full-text
DOCUMENT NUMBER: 113:80425
TITLE: Synthesis of diphenyl methyl phosphate and diphenyl ethyl phosphate and their flame retardancy on PET [poly(ethylene terephthalate)] fabrics
AUTHOR(S): Cho, Hwan; Lee, Kwang Woo; Cho, In Sul; Huh, Man Woo; Cho, Yong Suk; Chang, Du Sang; Kim, Soo Chang
CORPORATE SOURCE: Coll. Eng., Yeungnam Univ., Taegu, S. Korea
SOURCE: Journal of the Korean Fiber Society (1989), 26(5), 428-36
CODEN: HSKCDQ; ISSN: 0253-6420
DOCUMENT TYPE: Journal
LANGUAGE: Korean

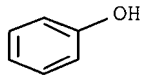
AB An exptl. study for the development of technol. for durable flame-retardant finishing of PET fabrics was presented. In the synthesis of Ph2MePO4 (I) and Ph2EtPO4 (II), which served as flame retardants for PET, the process using N current to expel HCl gas in the reaction system is practicable without the use of solns. such as pyridine or tertiary amine. I and II showed good flame retardancy effects. PET fabrics treated with I and II were durable to repeated washings, and wet cure gave softer touch than dry cure.

CC 40-9 (Textiles and Fibers)
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenol)
IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride)
IT 2524-64-3P, Diphenyl chlorophosphate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with ethanol or methanol)
IT 10025-87-3, Phosphoryl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)

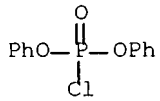


IT 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 2524-64-3P, Diphenyl chlorophosphate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with ethanol or methanol)
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)

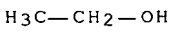


L46 ANSWER 40 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:135656 HCAPLUS Full-text
DOCUMENT NUMBER: 110:135656
TITLE: Preparation of saccharide phosphates and their esters as drugs for humans and animals
INVENTOR(S): Hayauchi, Yutaka; Lockhoff, Oswald; Babczinski, Peter; Petzinna, Dieter; Bischoff, Hilmar
PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 21 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

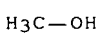
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3631004	A1	19880324	DE 1986-3631004	19860912 <--
EP 259752	A2	19880316	EP 1987-112718	19870901 <--
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 63088194	A	19880419	JP 1987-223186	19870908 <--

PRIORITY APPLN. INFO.: DE 1986-3631004 A 19860912 <--
OTHER SOURCE(S): CASREACT 110:135656; MARPAT 110:135656
AB R3OP(O)(OR2)OR1 [I; R1 = H, (un)substituted (un)saturated alkyl, etc.; R2 = H, (un)substituted aryl, protecting group, cation; R3 = (protected) saccharide residue], useful as drugs, especially as antimicrobial agents (no data) for humans and animals, are prepared A mixture of Ph phosphorodichloridate, MeOH, and pyridine in dry hexane was stirred at 0° for 1 h and then filtered, and filtrate concentrated, and the residue reacted with 1,2:3,4-di-O-isopropylidene-α-D-galactopyranose in pyridine to give 70% I (R1 = Me; R2 = Ph; R3 = 1,2:3,4-di-O-isopropylidene- α-D-galactopyranos-6-yl).

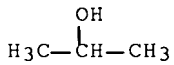
IC ICM C07H011-04
ICS A61K031-70; A23K001-16
ICA C07H009-04
CC 33-9 (Carbohydrates)
Section cross-reference(s): 1
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 71-36-3, 1-Butanol, reactions 78-83-1, reactions 96-41-3, Cyclopentanol 100-79-8 107-18-6, 2-Propen-1-ol, reactions 108-93-0, Cyclohexanol, reactions 112-72-1, 1-Tetradecanol 112-92-5, 1-Octadecanol 540-51-2 582-52-5 770-12-7 772-79-2 777-52-6 1623-08-1 2524-64-3 4064-06-6 13929-83-4 15074-54-1 119646-47-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of saccharide phosphates)
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 71-36-3, 1-Butanol, reactions 78-83-1, reactions 100-79-8 107-18-6 , 2-Propen-1-ol, reactions 112-72-1, 1-Tetradecanol 112-92-5, 1-Octadecanol 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of saccharide phosphates)
RN 64-17-5 HCAPLUS
CN Ethanol (CA INDEX NAME)



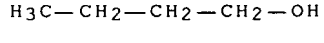
RN 67-56-1 HCAPLUS
CN Methanol (CA INDEX NAME)



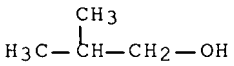
RN 67-63-0 HCAPLUS
CN 2-Propanol (CA INDEX NAME)



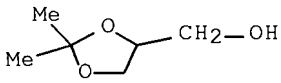
RN 71-36-3 HCAPLUS
CN 1-Butanol (CA INDEX NAME)



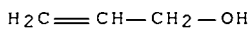
RN 78-83-1 HCAPLUS
CN 1-Propanol, 2-methyl- (CA INDEX NAME)



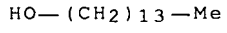
RN 100-79-8 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (CA INDEX NAME)



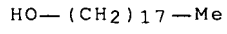
RN 107-18-6 HCAPLUS
CN 2-Propen-1-ol (CA INDEX NAME)



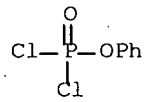
RN 112-72-1 HCAPLUS
CN 1-Tetradecanol (CA INDEX NAME)



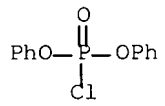
RN 112-92-5 HCAPLUS
CN 1-Octadecanol (CA INDEX NAME)



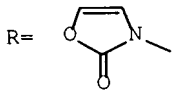
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 41 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1988:167574 HCAPLUS Full-text
DOCUMENT NUMBER: 108:167574
TITLE: New phosphorylating agents for general synthesis of mixed phosphate esters
AUTHOR(S): Nagamatsu, Tomohisa; Kunieda, Takehisa
CORPORATE SOURCE: Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, 862, Japan
SOURCE: Tetrahedron Letters (1987), 28(21), 2375-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 108:167574
GI



AB An effective procedure has been developed for the general synthesis of mixed alkyl or aryl phosphate esters by metal-catalyzed phosphorylation of alcs. with aryl bis(2-oxo-3-oxazolinyl)phosphinate. Among metallic acetylacetonates examined as catalysts, the zirconium complex was the most effective as in activity order of Zr(IV) > Ce(III) > Zn(II) > Mn(III) > Mn(II)-complexes. Thus, phosphorylation of BuOH with R2P(O)(OR1) (R1 = 4-ClC6H4) catalyzed by Mn(acac)3 (acac = acetylacetonate) gave 86% RP(O)(OR1)(OBu), which upon treatment with PhCH2CH2OH in presence of Zr(acac)4 gave 84% (R1O)P(O)(OBu)(OCH2CH2Ph).
CC 29-7 (Organometallic and Organometalloidal Compounds)
ST oxazolinylphosphonate phosphorylating agent alc; bisoxazolinyl phosphinate phosphorylating agent alc; metal acetylacetonate complex catalyzed phosphorylation; zirconium acetylacetonate complex catalyzed phosphorylation; manganese acetylacetonate complex catalyzed phosphorylation; phosphate ester mixed
IT Phosphorylation catalysts
(metal acetylacetonates, for alcs.)
IT Phosphorylation, synthetic
(of alcs. with oxazolinylphosphinates, mixed phosphate esters from)
IT 14024-58-9, Bis(acetylacetonato)manganese 14024-63-6, Bis(acetylacetonato)zinc 14284-89-0, Tris(acetylacetonato)manganese

15653-01-7, Tris(acetylacetonato)cerium 17501-44-9, Tetrakis(acetylacetonato)zirconium
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for phosphorylation of alcs.)

IT 770-12-7 772-79-2 2524-64-3 15074-54-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with oxazolones)

IT 78605-38-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation by, of alcs., catalyst for)

IT 60-12-8 96-41-3, Cyclopentyl alcohol 100-79-8 107-18-6, reactions 110-63-4, reactions 504-63-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation of, catalyst for)

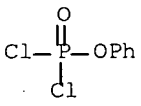
IT 67-56-1, reactions 71-36-3, reactions 78-92-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation of, with oxazolinylphosphinates, catalyst for)

IT 113813-41-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and phosphorylation by, of alcs.)

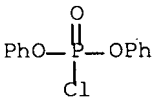
IT 85328-97-8P 113813-21-1P 113813-22-2P 113813-23-3P 113813-28-8P 113813-30-2P 113835-21-5P 113835-22-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and phosphorylation by, of alcs., catalyst for)

IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with oxazolones)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

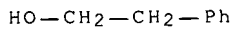


RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)

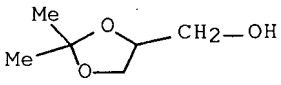


IT 60-12-8 100-79-8 107-18-6, reactions 504-63-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation of, catalyst for)

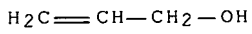
RN 60-12-8 HCAPLUS
CN Benzeneethanol (CA INDEX NAME)



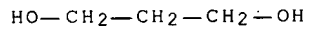
RN 100-79-8 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (CA INDEX NAME)



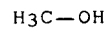
RN 107-18-6 HCAPLUS
CN 2-Propen-1-ol (CA INDEX NAME)



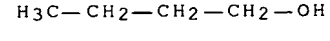
RN 504-63-2 HCAPLUS
CN 1,3-Propanediol (CA INDEX NAME)



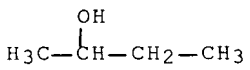
IT 67-56-1, reactions 71-36-3, reactions 78-92-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation of, with oxazolinylphosphinates, catalyst for)
RN 67-56-1 HCAPLUS
CN Methanol (CA INDEX NAME)



RN 71-36-3 HCAPLUS
CN 1-Butanol (CA INDEX NAME)



RN 78-92-2 HCAPLUS
CN 2-Butanol (CA INDEX NAME)



L46 ANSWER 42 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:523594 HCAPLUS Full-text
DOCUMENT NUMBER: 103:123594
TITLE: Kinetics of formation of triphenyl phosphate: phase-transfer catalysis in a liquid-liquid system
AUTHOR(S): Krishnakumar, V. K.; Sharma, Man Mohan
CORPORATE SOURCE: Dep. Chem. Technol., Univ. Bombay, Bombay, 400 019, India
SOURCE: Industrial & Engineering Chemistry Process Design and Development (1985), 24(4), 1293-7
CODEN: IEPDAW; ISSN: 0196-4305
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:123594

AB The kinetics of reaction of (PhO)2P(O)Cl with NaOPh, to give (PhO)3PO, was examined in an organic-aqueous two-phase system using a variety of phase transfer catalysts. The reaction occurs in the organic phase and diffusional factors were important. The reaction was first order in (PhO)2P(O)Cl and the phase-transfer catalyst (Aliquat 336). The hydrodynamic factors were unimportant and the system conformed to the fast-pseudo-first-order reaction regime. Aliquat 336 gave the highest rate of extraction among the catalysts studied. An Aliquat 336 concentration of 1.42 + 10-6 mol/cm3 in the organic phase enhanced the rate of extraction by a factor of 90.

CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22

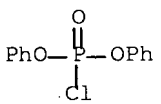
IT 2524-64-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium phenoxide under phase-transfer conditions, kinetics of)

IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)

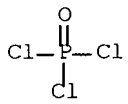
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)

IT 2524-64-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium phenoxide under phase-transfer conditions, kinetics of)

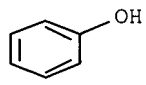
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



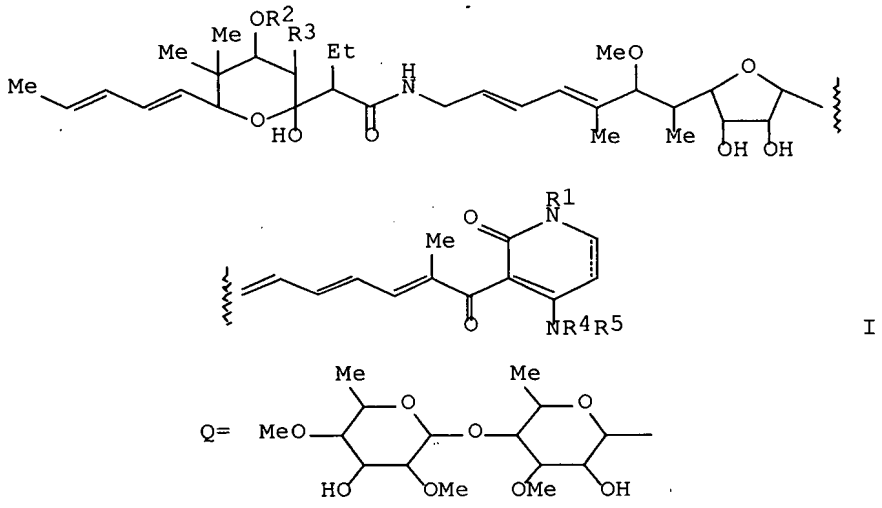
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



L46 ANSWER 43 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:454403 HCAPLUS Full-text
DOCUMENT NUMBER: 103:54403
TITLE: 4-Amino-4-dehydroxy derivatives of efrotomycin and related compounds
INVENTOR(S): Linn, Bruce O.; Lusi, Aino
PATENT ASSIGNEE(S): Merck and Co., Inc. , USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4515783	A	19850507	US 1983-544350	19831024 <--
PRIORITY APPLN. INFO.:			US 1983-544350	19831024 <--

OTHER SOURCE(S): MARPAT 103:54403
GI



AB Efrotomycin derivs. I [broken line = double or single bond; R1 = H, Me; R2 = H, Q; R3 = H, OH; R4, R5 = independently H, (un)substituted alkyl, Ph, (un)substituted phenylalkyl, alkoxycarbonyl, phenoxycarbonyl, (un)substituted aminocarbonyl, dialkoxyphosphinyl, etc.; or NR4R5 = (un)substituted heterocyclyl], useful as antibiotics and animal growth promoters (no data), were prepared Thus efrotomycin-4-O-sodium, obtained from efrotomycin and NaOMe, was treated with PhOP(O)Cl2 in DMF to give efrotomycin-4-O-phenylchlorophosphate, which was treated with NH3 in DMF to give 4-amino-4-dehydroxyefrotomycin.

IC ICM A61K031-71
ICS C07H003-06

INCL 514027000

CC 33-3 (Carbohydrates)
Section cross-reference(s): 1, 17, 26

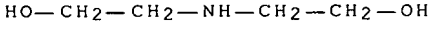
IT 64-04-0 74-89-5, reactions 75-31-0, reactions 100-46-9, reactions 108-00-9 108-91-8, reactions 109-73-9, reactions 109-85-3 110-89-4, reactions 110-91-8, reactions 111-42-2, reactions 124-40-3, reactions 141-43-5, reactions 1668-10-6 2869-34-3 6011-14-9 7483-59-2 18542-42-2 20781-20-8 22483-09-6 41661-47-6 59934-28-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with efrotomycin di-Ph phosphate)

IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with efrotomycin sodium salt)

IT 111-42-2, reactions 141-43-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with efrotomycin di-Ph phosphate)

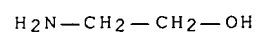
RN 111-42-2 HCAPLUS

CN Ethanol, 2,2'-iminobis- (CA INDEX NAME)

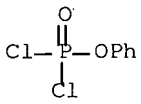


RN 141-43-5 HCAPLUS

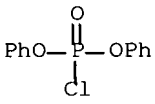
CN Ethanol, 2-amino- (CA INDEX NAME)



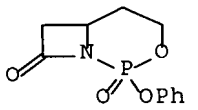
IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with efrotomycin sodium salt)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



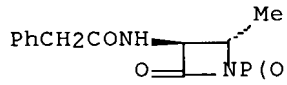
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



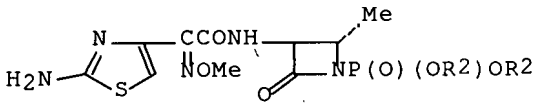
L46 ANSWER 44 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1983:612310 HCAPLUS Full-text
DOCUMENT NUMBER: 99:212310
TITLE: β-Lactams. XI. Synthesis of N-phosphorylated mono- and bicyclic β-lactams
AUTHOR(S): Just, George; Dugat, Denise; Liu, Whi Yu
CORPORATE SOURCE: Dep. Chem., McGill Univ., Montreal, QC, H3A 2K6, Can.
SOURCE: Canadian Journal of Chemistry (1983), 61(8), 1730-5
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 99:212310
GI



I



II



III

AB N-Phosphorylated mono- and bicyclic β-lactams I, II (R = CH2Ph, H, Me), and III (R1 = R2 = CH2Ph, H, Me, NHEt; R1 = H, R2 = K) have been synthesized from appropriately substituted monocyclic β-lactams.

CC 26-5 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 29

IT 770-12-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminopropanol)

IT 538-37-4 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with azetidinone derivs.)

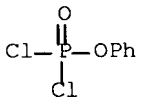
IT 156-87-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichlorophosphate)

IT 115-20-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride and aminopropanol)

IT 770-12-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminopropanol)

RN 770-12-7 HCAPLUS

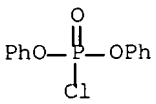
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



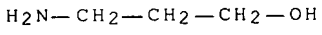
IT 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with azetidinone derivs.)

RN 2524-64-3 HCAPLUS

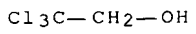
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



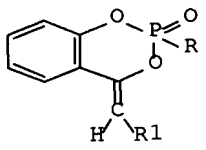
IT 156-87-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichlorophosphate)
RN 156-87-6 HCAPLUS
CN 1-Propanol, 3-amino- (CA INDEX NAME)



IT 115-20-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxychloride and aminopropanol)
RN 115-20-8 HCAPLUS
CN Ethanol, 2,2,2-trichloro- (CA INDEX NAME)



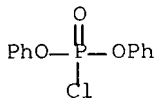
L46 ANSWER 45 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1983:179499 HCAPLUS Full-text
DOCUMENT NUMBER: 98:179499
TITLE: [Z]-4-Alkylidene-1,3,2-benzodioxaphosphorinane 2-oxides from stereospecific cyclization of 2-alkylketophenyl phosphonates and phosphates
AUTHOR(S): Tawata, Shinkichi; Eto, Masayoshi; Casida, John E.
CORPORATE SOURCE: Dep. Entomol. Sci., Univ. California, Berkeley, CA, 94720, USA
SOURCE: Bioorganic Chemistry (1982), 11(4), 457-62
CODEN: BOCMBM; ISSN: 0045-2068
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



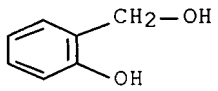
I

AB The title compds. (I, R = Ph, PhO; R1 = H, Me, Et) were prepared in 48-70% by cyclizing (o-R1CH2COC6H4O)2P(O)Ph and o-R1CH2COC6H4OP(O)(OPh)2 at 70° in MeCN containing K2CO3. The Z isomer is exclusively formed with higher alkylidene derivs. Metabolically formed 4-alkylidene- and 4-methyl-1,3,2-benzodioxaphosphorinane 2-oxides may contribute to the biol. activity of 2-ethylphenylphosphorus compds.

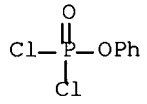
CC 29-7 (Organometallic and Organometalloidal Compounds)
IT 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with azophenols)
IT 90-01-7 62019-23-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichlorophosphine oxides)
IT 770-12-7 824-72-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols)
IT 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with azophenols)
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 90-01-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichlorophosphine oxides)
RN 90-01-7 HCAPLUS
CN Benzenemethanol, 2-hydroxy- (CA INDEX NAME)



IT 770-12-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

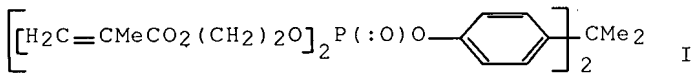


L46 ANSWER 46 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1983:22309 HCAPLUS Full-text
DOCUMENT NUMBER: 98:22309
TITLE: Dental fillings and bone substitutes containing

organophosphorus compounds
PATENT ASSIGNEE(S): Sankin Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57154114	A	19820922	JP 1981-39003	19810317 <--
JP 04018866	B	19920327		

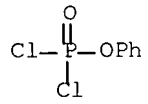
PRIORITY APPLN. INFO.: JP 1981-39003 19810317 <--
GI



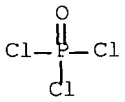
I

AB Dental fillings and bone substitutes with high mech. strength contain organophosphorus compds. The synthesis of these compds. is described. A dental filling was prepared by mixing powdered quartz with a pH 9-9.8 (NaOH) solution of γ-methacryloxypropyltrimethoxysilane, and drying. The product was mixed with colloidal silica and a resin binder, which was a mixture of I [83953-10-0] and (CH2:CHCO2CH2CH2O)3P:O [35057-49-9] (7:3). This paste was divided in 2 portions: one was mixed with N,N'-dimethyl-p-toluidine and p-tolylsulfonylhydrazine, and the other with Bz2O2. Mixing the paortions produced a dental filling with phys. properties (stretch, compression, and bending strengths) better than those of a control filling prepared from bisphenol A-diglycidyl dimethacrylate instead of the P compds.

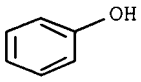
IC A61K006-02; A61F001-00
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 29
IT 770-12-7P 15074-54-1P 24802-03-7P 82504-60-7P 83953-04-2P
RL: PREP (Preparation)
(preparation of, and reaction with hydroxyethyl methacrylate)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrylate derivs.)
IT 80-05-7, reactions 95-48-7, reactions 95-57-8 98-54-4
108-95-2, reactions 132-86-5 135-19-3, reactions 1965-09-9
4081-02-1 6626-15-9 53905-34-3 67247-13-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)
IT 770-12-7P
RL: PREP (Preparation)
(preparation of, and reaction with hydroxyethyl methacrylate)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrylate derivs.)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



L46 ANSWER 47 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1982:509179 HCAPLUS Full-text
DOCUMENT NUMBER: 97:109179
TITLE: Convenient one-pot syntheses of sulfinates, sulfinamides, and thiosulfinates by sulfinylation with p-toluenesulfinic acid and activating reagents
AUTHOR(S): Noguchi, Yoshihide; Isoda, Masanobu; Kuroki, Kenkichi; Furukawa, Mitsuru
CORPORATE SOURCE: Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, 862, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1982), 30(5), 1646-52
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 97:109179
AB Title sulfinylations of alcs., amines, and thiols with p-MeC6H4SO2H were carried out in the presence of various activating reagents, i.e., PhOP(O)Cl2 (I), (PhO)2P(O)Cl (II), triphenylphosphine N-chlorosuccinimide, and 3-(phthalimidoxy)-1,2-benzoisothiazole 1,1-dioxide. All of these reagents were reasonably effective for O- and S-sulfinylation, but ineffective for N-

sulfinylation. Among them, the reagents I and II were slightly more efficient than the others.

CC 21-2 (General Organic Chemistry)

ST sulfinylation alc thiol amine; alc sulfinylation toluenesulfinic acid; thiol sulfinylation toluenesulfinic acid; amine sulfinylation toluenesulfinic acid

IT Alcohols, reactions
Amines, reactions
Thiols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfinylation of, with toluenesulfinic acid and activating reagents)

IT Substitution reaction
(sulfinylation, of alcs., thiols, and amines with toluenesulfinic acid and activated reagents)

IT 770-12-7 2524-64-3 82875-94-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(activating reagent, for sulfinylation of alcs., thiols, and amines with toluenesulfinic acid)

IT 82875-95-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use as activating reagent, for sulfinylation of alcs., thiols, and amines with toluenesulfinic acid)

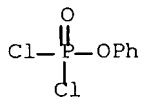
IT 536-57-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfinylation by, of alcs., amines, and thiols)

IT 62-53-3, reactions 64-17-5, reactions 71-36-3, reactions 75-33-2 75-64-9, reactions 75-65-0, reactions 75-66-1 76-84-6 100-46-9, reactions 107-19-7 108-93-0, reactions 108-98-5, reactions 110-89-4, reactions 110-91-8, reactions 111-27-3, reactions 111-88-6 1569-69-3 2216-51-5 3695-77-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfinylation of, with toluenesulfinic acid and activating reagents)

IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(activating reagent, for sulfinylation of alcs., thiols, and amines with toluenesulfinic acid)

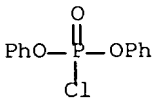
RN 770-12-7 HCAPLUS

CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



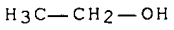
RN 2524-64-3 HCAPLUS

CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



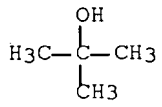
IT 64-17-5, reactions 71-36-3, reactions 75-65-0,
reactions 76-84-6 107-19-7 111-27-3,
reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfinylation of, with toluenesulfinic acid and activating reagents)

RN 64-17-5 HCAPLUS
CN Ethanol (CA INDEX NAME)

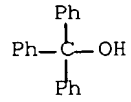


RN 71-36-3 HCAPLUS
CN 1-Butanol (CA INDEX NAME)

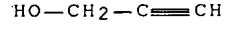
RN 75-65-0 HCAPLUS
CN 2-Propanol, 2-methyl- (CA INDEX NAME)



RN 76-84-6 HCAPLUS
CN Benzenemethanol, α,α-diphenyl- (CA INDEX NAME)



RN 107-19-7 HCAPLUS
CN 2-Propyn-1-ol (CA INDEX NAME)



RN 111-27-3 HCAPLUS

CN 1-Hexanol (CA INDEX NAME)

HO—(CH2)5—Me

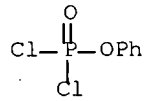
L46 ANSWER 48 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1982:461066 HCAPLUS Full-text
DOCUMENT NUMBER: 97:61066
TITLE: Arylpyrophosphoric acid ester derivatives
PATENT ASSIGNEE(S): Sankin Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57038793	A	19820303	JP 1980-114996	19800820 <--
JP 62061034	B	19871218		

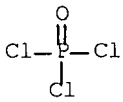
PRIORITY APPLN. INFO.: JP 1980-114996 A 19800820 <--

AB Six title ester derivs., O[P(O)(OR)(OR1)]2 (I, R = aryl; R1 = CH2CH:CH2, CH2CH2O2CCR2:CH2, or CH2CHClCH2O2CCMe:CH2; R2 = H or Me) were manufactured for use in repair materials in dentistry. Thus, heating a mixture of PhOH [108-95-2] 94, POCl3 160, and CaCl2 25 g 5 h at 150° gave 204 g PhOP(O)Cl2 [770-12-7], which was mixed as a CH2Cl2 solution 2 h at 0° with 120 g CH2:CMeCO2CH2CH2OH [868-77-9] and 120 g CH5N in CH2Cl2 to give PhOP(O)ClOCH2CH2O2CCMe:CH2 (II) [76619-62-0]. Hydrolysis of II by stirring 2 h in cold water gave 219 g I (R = Ph, R1 = CH2CH2O2CCMe:CH2 [82504-61-8].

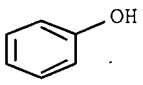
IC C07F009-18
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 25, 29
IT 770-12-7P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with hydroxyethyl methacrylate)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxytrichloride)
IT 770-12-7P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with hydroxyethyl methacrylate)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)

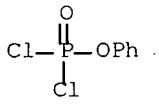


IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphorus oxytrichloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)

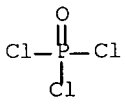


L46 ANSWER 49 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1980:163643 HCAPLUS Full-text
Correction of: 1978:615707
DOCUMENT NUMBER: 92:163643
Correction of: 89:215707
TITLE: Phenyl dihydrogen phosphate. Conversion of phenols into aryl dihydrogen phosphates
AUTHOR(S): Chattopadhyaya, Jyoti B.; Owen, Geoffrey R.; Reese, Colin B.
CORPORATE SOURCE: Dep. Chem., King's Coll., Strand/London, WC2R 2LS, UK
SOURCE: Nucleic Acid Chem. (1978), Volume 2, 1003-5.
Editor(s): Townsend, Leroy B.; Tipson, R. Stuart.
Wiley: New York, N. Y.
CODEN: 39GCA6
DOCUMENT TYPE: Conference
LANGUAGE: English
AB PhOH, POCl3 and AlCl3 gently refluxed gave 89% PhOP(O)Cl2. Heating this product while adding water dropwise gave 77% PhOP(O)(OH)2 directly, thus avoiding the step of removing alkali metal which is required when alkaline hydrolysis is used.
CC 25-10 (Noncondensed Aromatic Compounds)

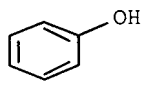
IT 770-12-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)
IT 770-12-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenol)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



L46 ANSWER 50 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1980:94481 HCAPLUS Full-text
DOCUMENT NUMBER: 92:94481

TITLE: Synthesis and study of the thermal stability of silicon-containing phosphorus acid esters. 2. Thermal rearrangement of trimethylsilylmethyl ("siliconeopentyl") esters of phosphorus acids

AUTHOR(S): Zakharov, L. S.; Drozdova, T. D.; Svoren, V. A.; Kabachnik, M. I.

CORPORATE SOURCE: Inst. Elementoorg. Soedin., Moscow, USSR

SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1979), (11), 2564-71
CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 92:94481

AB (PhO3-nP(O)(OCH2SiMe3)n (I, n = 1-3), Me3CCH2OP(O)(OCH2SiMe3)2 and Me3SiCH2OP(O)(OCH2CMe3)2 were prepared in 16-75% yields and their thermolysis at 175-200° investigated. Thus, reaction of Me3SiCH2OH with (PhO)3-nP(O)Cln in presence of Et3N gave I. In all cases studied, the Me3SiCH2 group rearranged to the Me2EtSi group on thermolysis.

CC 29-6 (Organometallic and Organometalloidal Compounds)

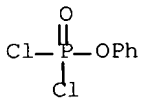
IT 770-12-7 2524-64-3 10025-87-3 39846-22-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxymethyltrimethylsilane)

IT 75-84-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with siliconeopentyl dichlorophosphate)

IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxymethyltrimethylsilane)

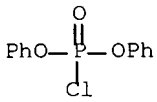
RN 770-12-7 HCAPLUS

CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS

CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 75-84-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with siliconeopentyl dichlorophosphate)

RN 75-84-3 HCAPLUS

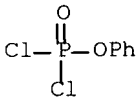
CN 1-Propanol, 2,2-dimethyl- (CA INDEX NAME)

$Me_3C—CH_2—OH$

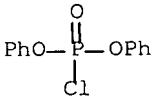
L46 ANSWER 51 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1976:542807 HCAPLUS Full-text
DOCUMENT NUMBER: 85:142807
ORIGINAL REFERENCE NO.: 85:22885a,22888a
TITLE: Esters of phosphorus acids
INVENTOR(S): Schumacher, Ignatius
PATENT ASSIGNEE(S): Monsanto Co., USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3965220	A	19760622	US 1974-473954	19740528 <--
CA 976181	A1	19751014	CA 1971-131543	19711231 <--
BE 777648	A1	19720703	BE 1972-112507	19720103 <--
FR 2121542	A5	19720825	FR 1972-45	19720103 <--
GB 1336531	A	19731107	GB 1972-69	19720103 <--
PRIORITY APPLN. INFO.:			US 1971-103877 A2	19710104 <--
			US 1971-156561 A2	19710624 <--

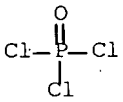
AB Reaction of POCl3 with phenols in the presence of amine catalysts, such as PhNMe2, Et2NH, and pyridine, but not aniline, gave mainly aryl phosphorodichloridates. Thus, to a mixture of 225 g POCl3 and 1.6 g PhNMe2 was added 94 g PhOH over 2 hr at 100-6° and the mixture kept at 105-10° for 1.5 hr to give 73.5% PhOP(O)Cl2 and 4.8% (PhO)2P(O)Cl.
IC C07F009-08
INCL 260975000
CC 25-10 (Noncondensed Aromatic Compounds)
IT 770-12-7P 2524-64-3P 15074-54-1P 17776-78-2P
18351-36-5P 24802-03-7P 29034-42-2P 31651-76-0P 38135-31-8P
38135-34-1P 38330-00-6P 38637-67-1P 38637-69-3P 38637-71-7P
38637-73-9P 52118-51-1P 60722-92-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenols)
IT 80-05-7, reactions 108-46-3, reactions 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride)
IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



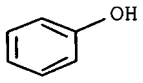
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenols)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



L46 ANSWER 52 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1975:563756 HCAPLUS Full-text
DOCUMENT NUMBER: 83:163756
ORIGINAL REFERENCE NO.: 83:25678h,25679a
TITLE: Synthesis of aryl phosphates
AUTHOR(S): Arct, Jerzy; Dul, Marian; Grejciun, Danuta; Mroz, Jerzy
CORPORATE SOURCE: Inst. Technol. Org. Tworzyw Sztucznych, Politech. Wroclaw., Wroclaw, Pol.

SOURCE: Prace Naukowe Instytutu Technologii Organicznej i Tworzyw Sztucznych Politechniki Wroclawskiej (1975), 17, 3-22
CODEN: PNITAF; ISSN: 0370-0879
DOCUMENT TYPE: Journal
LANGUAGE: Polish

AB The effects exerted by temperature, type and amount of catalyst, quant. ratio of the reactants, and the pressure on the esterification of POCl3 with PhOH, cresols, xylenols, p-Me2CHC6H4OH, and p-Me3CC6H4OH were investigated. The synthesis of triaryl esters proceeded best when the molar ratio of POCl3-phenol was 1:3.1 and the reaction was carried out at 413-23°K, under a pressure of 6.7-10.7 + 103 N/m2, and in the presence of 0.5% Mg as a catalyst. Maximum yields of phenyl chlorophosphates were obtained by conducting the esterification in the presence of 0.5% Mg, at 343-93°K; the optimum yield of phenyl dichlorophosphate was obtained when the molar ratio of POCl3-phenol was 1:0.9, and that of diphenyl chlorophosphate when the said ratio was 1:1.8.

CC 25-10 (Noncondensed Aromatic Compounds)

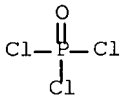
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols, optimum conditions for)

IT 95-48-7 95-65-8 95-87-4 98-54-4 99-89-8 105-67-9 106-44-5 108-39-4 108-68-9 108-95-2, reactions 526-75-0 576-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphorus oxychloride, optimum conditions for)

IT 115-86-6P 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

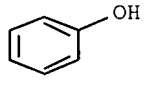
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols, optimum conditions for)

RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



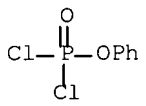
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphorus oxychloride, optimum conditions for)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)

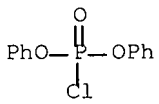


IT 770-12-7P 2524-64-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 53 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1974:108197 HCAPLUS Full-text
DOCUMENT NUMBER: 80:108197
ORIGINAL REFERENCE NO.: 80:17391a,17394a
TITLE: Esters of phosphorus acids
INVENTOR(S): Schumacher, Ignatius; Baker, Joseph W.
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3790649	A	19740205	US 1971-156487	19710624 <--
PRIORITY APPLN. INFO.:			US 1971-156487 A	19710624 <--

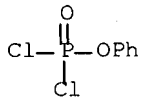
AB Halo containing phosphorus acid esters were prepared by the reaction of PCl3 with the corresponding phenol, thiol, or alc. in the presence of a distillation residue. Thus, reaction of POCl3 with PhOH in the presence of N-methylpyrrolidone gave 82% of a mixture containing 90% PhOP(O)Cl2 and 7% (PhO)2P(O)Cl and a distillation residue containing a catalyst concentration of 10% based on N-methylpyrrolidone. The distillation residue was used as a catalyst for ester preparation
IC C07F
INCL 260973000
CC 25-18 (Noncondensed Aromatic Compounds)
IT 770-12-7P 2524-64-3P 38637-69-3P 38637-73-9P
52118-51-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 10025-87-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aromatic compds.)

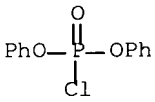
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride)

IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)

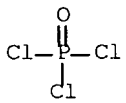


RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



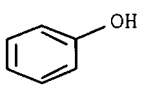
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aromatic compds.)

RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride)

RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



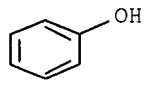
L46 ANSWER 54 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1974:26923 HCAPLUS Full-text
DOCUMENT NUMBER: 80:26923
ORIGINAL REFERENCE NO.: 80:4437a,4440a
TITLE: Esters of phosphorus acids
INVENTOR(S): Baker, Joseph W.; Schumacher, Ignatius
PATENT ASSIGNEE(S): Monsanto Co.
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3772414	A	19731113	US 1971-156562	19710624 <--
CA 941373	A1	19740205	CA 1971-131544	19711231 <--
BE 777649	A1	19720703	BE 1972-112508	19720103 <--
FR 2121545	A1	19720825	FR 1972-49	19720103 <--
FR 2121545	A5	19720825		
FR 2121545	B1	19770715		
DE 2200089	A	19721026	DE 1972-2200089	19720103 <--
GB 1348073	A	19740313	GB 1972-65	19720103 <--

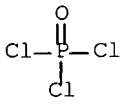
PRIORITY APPLN. INFO.:

US 1971-104171	A2	19710105 <--
US 1971-103831	A	19710104 <--
US 1971-103851	A	19710104 <--
US 1971-103874	A	19710104 <--
US 1971-106171	A	19710105 <--
US 1971-156478	A	19710624 <--
US 1971-156488	A	19710624 <--
US 1971-156562	A	19710624 <--

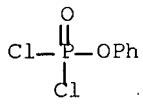
AB Esters of P acids were prepared by reacting a phenol with a P chloride over a urea catalyst. Thus, POCl3 treated with PhOH over Me2NCONMe2 gave 93.7% PhOP(O)Cl2, 4.4% (PhO)2P(O)Cl and 1.1% (PhO)3PO.
IC C07F
INCL 260973000
CC 25-8 (Noncondensed Aromatic Compounds)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of phosphorus chlorides with)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenols)
IT 115-86-6P 770-12-7P 1330-78-5P 2524-64-3P
14410-07-2P 26444-49-5P 29034-42-2P 38637-67-1P 38637-69-3P
38637-70-6P 38637-71-7P 38637-72-8P 38637-73-9P 38638-05-0P
39200-99-2P 39697-73-9P 50714-94-8P 50851-28-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of phosphorus chlorides with)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



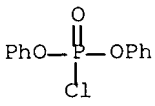
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenols)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 55 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1973:159202 HCAPLUS Full-text
DOCUMENT NUMBER: 78:159202
ORIGINAL REFERENCE NO.: 78:25559a,25562a
TITLE: Catalytic manufacture of organophosphoric acid esters
INVENTOR(S): Baker, Joseph Willard; Schumacher, Ignatius
PATENT ASSIGNEE(S): Monsanto Co.
SOURCE: Ger. Offen., 45 pp.
CODEN: GWXXBX

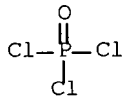
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2230912	A	19721228	DE 1972-2230912	19720623 <--
US 3751529	A	19730807	US 1971-156477	19710624 <--
BE 785337	A1	19721227	BE 1972-119077	19720623 <--
FR 2143400	A1	19730202	FR 1972-22845	19720623 <--
FR 2143400	B1	19771223		
GB 1355155	A	19740605	GB 1972-29580	19720623 <--
CA 957366	A1	19741105	CA 1972-145610	19720623 <--

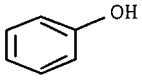
PRIORITY APPLN. INFO.: US 1971-156477 A 19710624 <--

AB Aryl phosphates were prepared by treating a phenol with POCl3 and a carbamate ester catalyst. Thus, PhOH, POCl3, and PhNHCO2Et gave a mixture of Cl2PO2Ph, ClP(O)(OPh)2, and (PhO)3PO; cresol with POCl3 in presence of EtNHCO2Et gave Cl2P(O)OC6H4Me, and addition of cresol to the mixture gave, successively, the di and triesters.

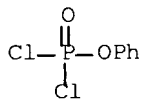
IC C07F
CC 25-10 (Noncondensed Aromatic Compounds)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols in presence of carbamates)
IT 108-95-2, reactions 1319-77-3 25154-52-3 25168-06-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, by phosphoryl chloride in presence of carbamate)
IT 115-86-6P 770-12-7P 1330-78-5P 2524-64-3P
29034-42-2P 38637-67-1P 38637-70-6P 38637-71-7P 39697-73-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of phenols in presence of carbamates)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



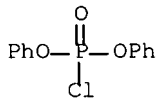
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, by phosphoryl chloride in presence of carbamate)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



L46 ANSWER 56 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1973:124274 HCAPLUS Full-text
DOCUMENT NUMBER: 78:124274
ORIGINAL REFERENCE NO.: 78:19959a,19962a
TITLE: Catalytic manufacture of organophosphoric acid esters
INVENTOR(S): Baker, Joseph Willard; Schumacher, Ignatius
PATENT ASSIGNEE(S): Monsanto Co.
SOURCE: Ger. Offen., 44 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

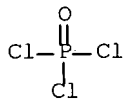
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2230913	A	19721228	DE 1972-2230913	19720623 <--
US 3773866	A	19731120	US 1971-156563	19710624 <--
BE 785336	A1	19721227	BE 1972-119076	19720623 <--
FR 2143402	A1	19730202	FR 1972-22848	19720623 <--
FR 2143402	B1	19771230		
CA 957367	A1	19741105	CA 1972-145611	19720623 <--
GB 1355297	A	19740605	GB 1972-29581	19720628 <--

PRIORITY APPLN. INFO.: US 1971-156563 A 19710624 <--

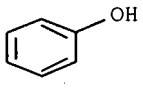
AB Chlorinated P acid aryl esters were prepared by reacting POCl3 with phenols or aromatic thiols at .apprx. 100-20° in the presence of an ammonium salt. Thus, 153.4 g POCL3 heated 1 hr at 105°, then 2 hr at 115°, with 94 g PhOH in the presence of 2.6 g (NH4)2SO4 gave 64.7 PhOP (O) Cl2 and 22.5% (PhO)2P(O)Cl.

IC C07F

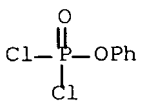
CC 25-10 (Noncondensed Aromatic Compounds)
Section cross-reference(s): 26
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenols)
IT 90-15-3 95-57-8 98-54-4 108-46-3, reactions 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride)
IT 770-12-7P 2524-64-3P 15074-54-1P 18351-36-5P 31651-76-0P 41240-73-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phenols)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



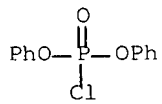
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



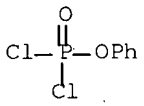
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



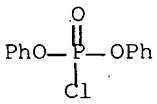
L46 ANSWER 57 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1973:29423 HCAPLUS Full-text
DOCUMENT NUMBER: 78:29423
ORIGINAL REFERENCE NO.: 78:4635a,4638a
TITLE: Organophosphoric acid esters
INVENTOR(S): Schumacher, Ignatius; Baker, Joseph Willard
PATENT ASSIGNEE(S): Monsanto Co.
SOURCE: Ger. Offen., 63 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
DE 2200089	A	19721026	DE 1972-2200089		19720103 <--
US 3772414	A	19731113	US 1971-156562		19710624 <--
PRIORITY APPLN. INFO.:			US 1971-103851	A	19710104 <--
			US 1971-103874	A	19710104 <--
			US 1971-104171	A	19710105 <--
			US 1971-156478	A	19710624 <--
			US 1971-156488	A	19710624 <--
			US 1971-156562	A	19710624 <--

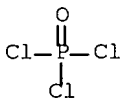
AB Cl3PO, Cl3PS, MeP(S)Cl2, and ClCH2P(O)Cl2 were reacted with phenols during 1-10 hr at 103-210° in the presence of amide catalysts, e.g.; AcNHPh, MeCONH2, pyrrolidone, PhP(O)(NMe2)2, (H2N)3PO, to obtain the following esters: Cl2P(O)OR, ClP(O)(OR)2, (RO)3PO, MeP(S)Cl(OR), Cl2P(S)OR, ClCH2P(O)Cl(OR) [R = Ph, MeC6H4, Me2C6H3, cumenyl, Me(CH2)8C6H4]. About 18 esters were prepared
IC C07F
CC 25-10 (Noncondensed Aromatic Compounds)
IT 115-86-6P 770-12-7P 2524-64-3P 14410-07-2P
21186-90-3P 25586-42-9P 26444-49-5P 29034-42-2P 34364-42-6P
38637-67-1P 38637-69-3P 38637-71-7P 38637-73-9P 38638-05-0P
39200-99-2P 39529-84-5P 39529-87-8P 39697-73-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols in presence of amides)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride in presence of amides)
IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



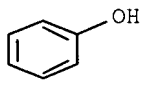
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols in presence of amides)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride in presence of amides)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



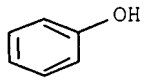
L46 ANSWER 58 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1972:514033 HCAPLUS Full-text
DOCUMENT NUMBER: 77:114033
ORIGINAL REFERENCE NO.: 77:18784h,18785a
TITLE: Aryl phosphorodichloridates and diaryl phosphorochloridates
INVENTOR(S): Schumacher, Ignatius
PATENT ASSIGNEE(S): Monsanto Co.

SOURCE: Ger. Offen., 41 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

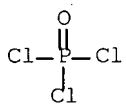
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2200137	A	19720727	DE 1972-2200137	19720103 <--
CA 976181	A1	19751014	CA 1971-131543	19711231 <--
BE 777648	A1	19720703	BE 1972-112507	19720103 <--
FR 2121542	A5	19720825	FR 1972-45	19720103 <--
GB 1336531	A	19731107	GB 1972-69	19720103 <--
PRIORITY APPLN. INFO.:			US 1971-103877 A	19710104 <--
			US 1971-156561 A	19710624 <--

AB Seventeen title compds., ROP(O)Cl2 (I) and RO(R1O)P(O)Cl (II, e.g., R = Ph, p-Me3CC6H4, o-ClC6H4, α-naphthyl, MeC6H4; R1 = Ph, p-Me3CC6H4, o-ClC6H4, α-naphthyl, MeC6H4, nonylphenyl, Me2CHC6H4C6H4) were prepared in high yields without side reactions and impurities by reaction of POCl3 with R1OH and (or) ROH in the presence of an amine catalyst. Thus, p-Me3CC6H4OH was added over 2 hr to POCl3 and pyridine at 100° and the mixture heated 2 hr at 110° to give 94.3% I (R = p-Me3CC6H4) and 2.5% II (R = R1 = p-Me3C-C6H4).

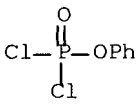
IC C07F
CC 25-10 (Noncondensed Aromatic Compounds)
IT 80-05-7, reactions 90-15-3 95-57-8 98-54-4 108-46-3, reactions 108-95-2, reactions 1319-77-3 25154-52-3 27576-86-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride, catalysts for)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification with, of phenols, catalysts for)
IT 770-12-7P 2524-64-3P 15074-54-1P 17776-78-2P 18351-36-5P 24802-03-7P 29034-42-2P 31651-76-0P 38135-31-8P 38135-34-1P 38330-00-6P 38637-67-1P 38637-69-3P 38637-70-6P 38637-71-7P 38637-72-8P 38637-73-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 108-95-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with phosphoryl chloride, catalysts for)
RN 108-95-2 HCAPLUS
CN Phenol (CA INDEX NAME)



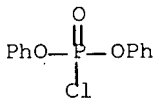
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification with, of phenols, catalysts for)
RN 10025-87-3 HCAPLUS
CN Phosphoric trichloride (CA INDEX NAME)



IT 770-12-7P 2524-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



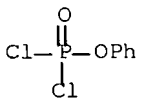
RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



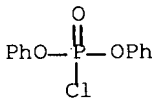
L46 ANSWER 59 OF 59 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1972:99026 HCAPLUS Full-text
DOCUMENT NUMBER: 76:99026
ORIGINAL REFERENCE NO.: 76:15935a,15938a
TITLE: Catalytic phosphorylation of polyfluorinated alcohols. 1. Preparation of tripolyfluoroalkyl- and arylpolyfluoroalkyl phosphates
AUTHOR(S): Zakharov, L. S.; Pisarenko, V. V.; Godovikov, N. N.; Kabachnik, M. I.
CORPORATE SOURCE: Inst. Elementoorg. Soedin., Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1971), (11), 2503-9
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB POCl3 and RONa in Et2O gave in 1 hr 60% OP(OCH2CF2CF3)3 and 48% OP(OCH2CF2CF2CF3)3. Since such esters are not cleaved by dry HCl in several hr at elevated temps., tests on the catalytic effect of metallic salts for direct synthesis of such esters from ROH and POCl3 were feasible and many such salts proved effective. With 3.4-6 moles ROH per mole of POCl3 and heating the mixture 3-15 hr in the presence of 0.08 mole per mole of POCl3 the following were effective catalysts: KCl, MgCl2 (or metallic Mg for reaction in situ), Mg(OH)Cl, MgSO4, CaCl2, AlCl3 (less effective than Mg salts) or

powdered Al (even less effective), ZnCl2, NH4Cl, Et4NCl, Et3N.HCl (equal to AlCl3). This method was used for preparation of OP(OR)3 with R = CH2CF2CF2CF3, CH2CF3, CH2CH2CF3, CH2CF2CF3, CH2CF2CF2CF2CHF2. The ROH above and 0.3 mole PhOPOCl2 or its analogs with various aryl groups heated in the presence of Mg or other catalysts above several hrs at 130-45° until HCl evolution had ceased, gave mixed aryl (or diaryl) fluoroalkyl phosphates, with Ph or m-ClC6H4 aryl groups and R selected from above lists.

CC 23 (Aliphatic Compounds)
ST ester phosphate aliph fluoro; phosphorylation aliph fluoro alc
IT Phosphorylation catalysts
(metal salts, for aliphatic fluoro alcs.)
IT Alcohols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation of fluoro aliphatic)
IT 56-34-8 554-68-7 7446-70-0, uses and miscellaneous 7447-40-7, properties 7487-88-9, uses and miscellaneous 7646-85-7, uses and miscellaneous 7786-30-3, uses and miscellaneous 10043-52-4, uses and miscellaneous 12125-02-9, uses and miscellaneous 13759-24-5
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for phosphorylation of aliphatic fluoro alcs.)
IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aliphatic fluoro alcs., catalysts for)
IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with heptafluorobutanol and trifluoropropanol)
IT 770-12-7 2524-64-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with heptafluorobutanol and trifluoropropanol)
RN 770-12-7 HCAPLUS
CN Phosphorodichloridic acid, phenyl ester (CA INDEX NAME)



RN 2524-64-3 HCAPLUS
CN Phosphorochloridic acid, diphenyl ester (CA INDEX NAME)



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                E EP2003-78364/APPS
L1            1 SEA ABB=ON  PLU=ON  (EP2003-78364/AP OR EP2003-78364/PRN)
                E WO2004-EP52615/APPS
L2            1 SEA ABB=ON  PLU=ON  (WO2004-EP52615/AP OR WO2004-EP52615/PRN)
L3            1 SEA ABB=ON  PLU=ON  L1 OR L2
                SEL RN

     FILE 'REGISTRY' ENTERED AT 10:29:39 ON 20 NOV 2007
L4           16 SEA ABB=ON  PLU=ON  (104-76-7/BI OR 108-95-2/BI OR 115-86-6/BI
                OR 1241-94-7/BI OR 16368-97-1/BI OR 2524-64-3/BI OR 25339-17-7/
                BI OR 29761-21-5/BI OR 51363-64-5/BI OR 55053-61-7/BI OR
                72512-96-0/BI OR 7647-01-0/BI OR 770-12-7/BI OR 7786-30-3/BI
                OR 838-85-7/BI OR 850415-34-8/BI)
L5            2 SEA ABB=ON  PLU=ON  L4 AND P/ELS AND CL/ELS
                D SCA
                D 1-2

     FILE 'CAPLUS' ENTERED AT 10:30:44 ON 20 NOV 2007
L6            1 SEA ABB=ON  PLU=ON  L4 AND L3
                D IALL HITSTR

     FILE 'REGISTRY' ENTERED AT 10:41:25 ON 20 NOV 2007
                D L5 1-2
L7            1 SEA ABB=ON  PLU=ON  L5 AND NR>1
L8            1 SEA ABB=ON  PLU=ON  L5 NOT L7
                SEL RN L7

     FILE 'CAPLUS' ENTERED AT 10:42:30 ON 20 NOV 2007
L9         1121 SEA ABB=ON  PLU=ON  L7(L)RACT+NT/RL
L10         491 SEA ABB=ON  PLU=ON  L8(L)RACT+NT/RL
L11          69 SEA ABB=ON  PLU=ON  L9 AND L10
                E LEWIS ACIDS+ALL/CT
L12        4334 SEA ABB=ON  PLU=ON  LEWIS ACIDS+PFT/CT(L)CAT+NT/RL
L13        6912 SEA ABB=ON  PLU=ON  LEWIS ACIDS+PFT/CT
L14           1 SEA ABB=ON  PLU=ON  L11 AND L12
L15           1 SEA ABB=ON  PLU=ON  L11 AND L13
L16           4 SEA ABB=ON  PLU=ON  L11 AND LEWIS?
                D KWIC
                D KWIC 3

     FILE 'HCAPLUS' ENTERED AT 10:44:39 ON 20 NOV 2007
L17      226154 SEA ABB=ON  PLU=ON  ALCOHOLS+PFT,NT1/CT(L)RACT+NT/RL
L18          23 SEA ABB=ON  PLU=ON  L17 AND L11
L19           1 SEA ABB=ON  PLU=ON  L16 AND L18
L20          26 SEA ABB=ON  PLU=ON  L16 OR L18
L21          11 SEA ABB=ON  PLU=ON  L11 AND ?ALCOHOL?
L22          28 SEA ABB=ON  PLU=ON  L20 OR L21

     FILE 'REGISTRY' ENTERED AT 10:46:08 ON 20 NOV 2007
L23           1 SEA ABB=ON  PLU=ON  PHENOL/CN
                E CL3OP/MF
L24          12 SEA ABB=ON  PLU=ON  CL3OP/MF

     FILE 'CAPLUS' ENTERED AT 10:46:55 ON 20 NOV 2007

     FILE 'REGISTRY' ENTERED AT 10:47:02 ON 20 NOV 2007
                E C6H6O/CN
                E C6H6O/MF
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L25          210 SEA ABB=ON  PLU=ON  C6H6O/MF
L26           73 SEA ABB=ON  PLU=ON  L25 AND C6/ES
                 SEL RN L24
                 SEL RN L26

     FILE 'CAPLUS' ENTERED AT 10:48:12 ON 20 NOV 2007
L27         4179 SEA ABB=ON  PLU=ON  L24(L)RACT+NT/RL
L28        21759 SEA ABB=ON  PLU=ON  L26(L)RACT+NT/RL
L29          253 SEA ABB=ON  PLU=ON  L27 AND L28

     FILE 'REGISTRY' ENTERED AT 10:49:37 ON 20 NOV 2007
                 E C6H5O2CL2/MF
                 E C6H5CL2O2P/MF
L30            4 SEA ABB=ON  PLU=ON  C6H5CL2O2P/MF
L31            2 SEA ABB=ON  PLU=ON  L30 AND C6/ES
                 D SCA

     FILE 'CAPLUS' ENTERED AT 10:50:54 ON 20 NOV 2007
L32          111 SEA ABB=ON  PLU=ON  L31(L)PREP+NT/RL
L33           33 SEA ABB=ON  PLU=ON  L32 AND L29

     FILE 'REGISTRY' ENTERED AT 10:51:47 ON 20 NOV 2007
                 E C12H10CLO2P/MF

     FILE 'CAPLUS' ENTERED AT 10:51:47 ON 20 NOV 2007

     FILE 'REGISTRY' ENTERED AT 10:51:52 ON 20 NOV 2007
                 E C12H10CLO2P/MF
L34            8 SEA ABB=ON  PLU=ON  C12H10CLO2P/MF
L35            0 SEA ABB=ON  PLU=ON  L34 AND 2 C6/E
L36            8 SEA ABB=ON  PLU=ON  L34 AND 2 C6/ES
                 E C12H10CLO3P/MF
L37            3 SEA ABB=ON  PLU=ON  C12H10CLO3P/MF
                 D SCA
L38            1 SEA ABB=ON  PLU=ON  L37 AND 2 C6/ES

     FILE 'CAPLUS' ENTERED AT 10:53:22 ON 20 NOV 2007
L39          111 SEA ABB=ON  PLU=ON  L31(L)PREP+NT/RL
L40          122 SEA ABB=ON  PLU=ON  L38(L)PREP+NT/RL
L41          199 SEA ABB=ON  PLU=ON  L39 OR L40
L42           41 SEA ABB=ON  PLU=ON  L41 AND L29

     FILE 'HCAPLUS' ENTERED AT 10:55:14 ON 20 NOV 2007
L43            2 SEA ABB=ON  PLU=ON  L22 AND L42
L44           67 SEA ABB=ON  PLU=ON  L22 OR L42
L45           65 SEA ABB=ON  PLU=ON  L44 NOT L43
L46           59 SEA ABB=ON  PLU=ON  L45 AND (PY<2004 OR PRY<2004 OR AY<2004)
                 D COST

     FILE 'HCAPLUS' ENTERED AT 10:56:46 ON 20 NOV 2007
                 D QUE L43
                 D L43 IBIB ABS HITIND HITSTR TOT
                 D QUE L46
                 D L46 IBIB ABS HITIND HITSTR TOT
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